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RICKENBACKER AIR NATIONAL GUARD BASE
COLUMBUS, OHIO

ADDENDUM TO THE PRE-CLOSURE SAMPLING REPORT HAZARDOUS WASTE STORAGE AREA

FINAL

JANUARY 1992

HAZWRAP SUPPORT CONTRACTOR OFFICE
Oak Ridge, Tennessee 37831
MANAGED BY MARTIN MARIETTA ENERGY SYSTEMS, INC.
For the U.S. DEPARTMENT OF ENERGY under contract DE-AC05-840R21400

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Additional investigations were required at the Hazardous Waste Storage Area at the Rickenbacker Air National Guard Base. The purpose of the investigation was to determine the lateral and vertical extent of soil and ground water contamination contamination at the site. Additionally sufficient information was obtained in order to complete the addendum closure plan. The Hazardous Waste Storage Area will be closed in accordance with the Ohio Environmental Protection Agency regulations once the final addendum closure plan is approved.

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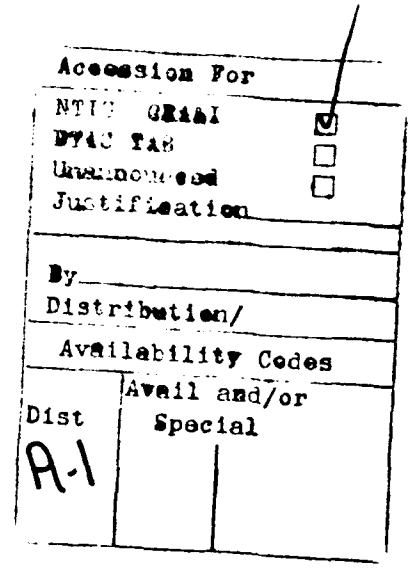
RICKENBACKER AIR NATIONAL GUARD BASE COLUMBUS, OHIO

FINAL

JANUARY 1992



Submitted To:

NATIONAL GUARD BUREAU
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ANDREWS AFB, MARYLAND

Submitted By:

HAZARDOUS WASTE REMEDIAL ACTIONS PROGRAM
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UNDER CONTRACT NO. DE-AC05-840R21400

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ACRONYMS

BL	Berkeley Laboratory
CLP	Contract Laboratory Protocol
EPA	Environmental Protection Agency
ES	Engineering-Science, Inc.
HC	Hydrocarbon
HWSA	Hazardous Waste Storage Area
IRP	Installation Restoration Program
MS	Matrix Spike
MSD	Matrix Spike Duplicate
MW	Monitoring Well
PSH	Phase-Separated Hydrocarbon
PSP	Pre-Closure Sampling Plan
QC	Quality Control
SI	Site Investigation
SS	Soil Sample
SVOC	Semi Volatile Organic Compound
US	United States
UST	Underground Storage Tank
VOC	Volatile Organic Compound
WO	Work Order

SECTION 1.0
EXECUTIVE SUMMARY

This report addendum documents the activities and findings of field investigations conducted at the Hazardous Waste Storage Area (HWSA) at Rickenbacker Air National Guard Base (the Base) during October of 1991. The purpose of this investigation is to determine the extent of chemical contamination in the surface sediment, soil and groundwater at the HWSA.

Previous investigations at this site are described in a report by Engineering-Science, Inc. titled "Pre-Closure Sampling Report, Hazardous Waste Storage Area" (draft, October 1990).

Rickenbacker ANGB is located twelve miles southeast of Columbus, Ohio. The facility has been in operation since the early 1940s in support of training and air-to-air refueling missions.

The HWSA at the Base consists of Building 560 and the Drum Storage Area southeast of the building. It has been under a Part A Permit for hazardous waste storage since 1983. The facility was last used in September 1986. The Drum Storage Area adjacent to Building 560 had been used to store liquid wastes such as spent solvents, cleaning fluids, acids and paint strippers. There are four 25,000-gallon steel underground storage tanks (USTs) adjacent to the HWSA. One tank is situated within the area defined by the perimeter fence. The USTs have been in use for approximately 40 years. Two tanks currently store de-icing fluid. JP-4 jet fuel, and recyclable oil were historically stored in the other two tanks.

Activities conducted during the pre-closure sampling included surface soil sampling, shallow and deep soil sampling by boring, installation of groundwater monitoring wells and groundwater sampling.

All work conducted at the HWSA was done in accordance to the Pre-Closure Sampling Plan (December 1989, Addended September 1991) with site activities being complete in the Spring of 1990 and in October 1991.

The surficial (<30' below grade) unconsolidated materials are similar throughout the Base and the HWSA. The uppermost ten feet is typically a brown silty clay, with trace amounts of small pebbles. From ten to approximately fifteen feet is silty/sandy clay. A saturated sand is encountered at approximately 15 feet. Water from this sand rises in wells to eight to ten feet below grade. This is underlain by a thin ($\leq$1') layer of hard, dense gray clay over brown to gray sand and gravel. The hydraulic gradient is in a general southerly direction.

The investigation conducted in 1990 determined that the surface and shallow soil within and adjacent to the HWSA are contaminated with metals, semi-volatile organic compounds (SVOCs) and volatile organic compounds (VOCs). The extent and concentration of contaminants generally decrease with depth. The exception to that generalization is the contamination of the shallow aquifer with phase-separated hydrocarbons, dissolved fuel components and halogenated VOCs with only trace concentrations in the shallow soil. In 1991, additional investigations were conducted to determine the extent of contamination.

The investigation conducted in 1991 defined the extent of the contaminants at this site. Groundwater screening, soil boring and sampling, monitoring well installation, surface soil sampling and groundwater sampling were conducted during October of 1991 that assisted in defining the contaminant plume. The downgradient extent of the groundwater is defined by monitoring wells (MW) 11 and 12 which are approximately 120 feet downgradient from the southeastern corner of the HWSA.

Groundwater samples obtained from existing wells at the site confirmed existence of VOCs previously detected in samples taken from these wells. Phase-separated hydrocarbon (PSH) was apparent in MW1 and MW5 during the 1991 investigation ("Determination of Phase-Separated Hydrocarbon Extent at the Hazardous Waste Storage Area", draft, October 1990, ES). Well MW5 had previously exhibited the existence of PSH.

Recovery of PSH has been ongoing at MW5. Limited amounts have been recovered totalling less than 55 gallons. The extent of PSH in the groundwater was explored using the groundwater screening tool. The total extent of PSH is limited to the area immediately surrounding MW1 and MW5. The source or origin of the hydrocarbon is unclear.

These data as well as all other data obtained at the HWSA will be incorporated into a Closure Plan for the proposed closure of this permitted storage area. This Closure Plan will be reviewed by the Ohio Environmental Protection Agency. It is anticipated that groundwater cleanup will be undertaken during the closure of this site.

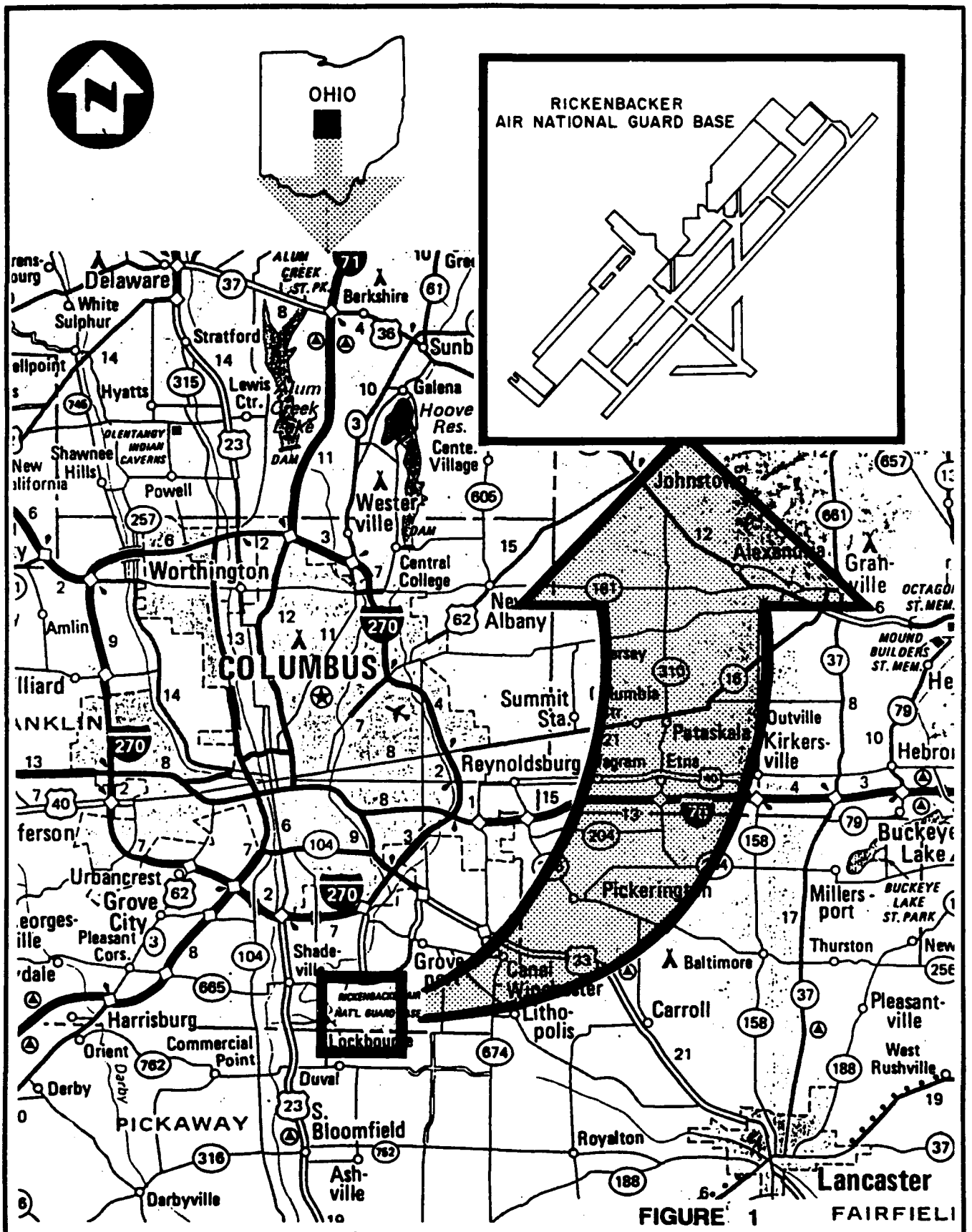
SECTION 2.0

PURPOSE AND SCOPE

This addendum documents the activities and findings of the field investigations conducted in October 1991 at the former Hazardous Waste Storage Area (HWSA), building 560, at Rickenbacker ANGB, Ohio (Figures 1 and 2). These investigations were conducted in accordance with the Pre-Closure Sampling Plan (PSP) dated December 1989 and the Addendum #1 to the PSP dated September 1991. The data collected during this investigation will be appended to the existing database for this site. Reporting of data from the original investigation was completed in the "Pre-Closure Sampling Report, Hazardous Waste Storage Area", draft, October 1990 by Engineering-Science (ES). All data obtained from this site will be used for the completion of a Closure Plan for this HWSA.

The additional sampling described in this addendum was conducted to fill data gaps existing after the original pre-closure sampling report. Specifically, these data gaps are:

- The anomalously high concentrations of semi-volatile organic compounds (SVOCs) found at the surface soils of the westernmost corner of the HWSA.
- The extent of VOCs previously detected in the groundwater. The findings of this investigation define the extent of the contaminants from this HWSA.



SOURCE:
MAP OF OHIO
AMERICAN AUTOMOBILE ASSOCIATION

FIGURE 1
LOCATION MAP
RICKENBACKER
AIR NATIONAL GUARD BASE

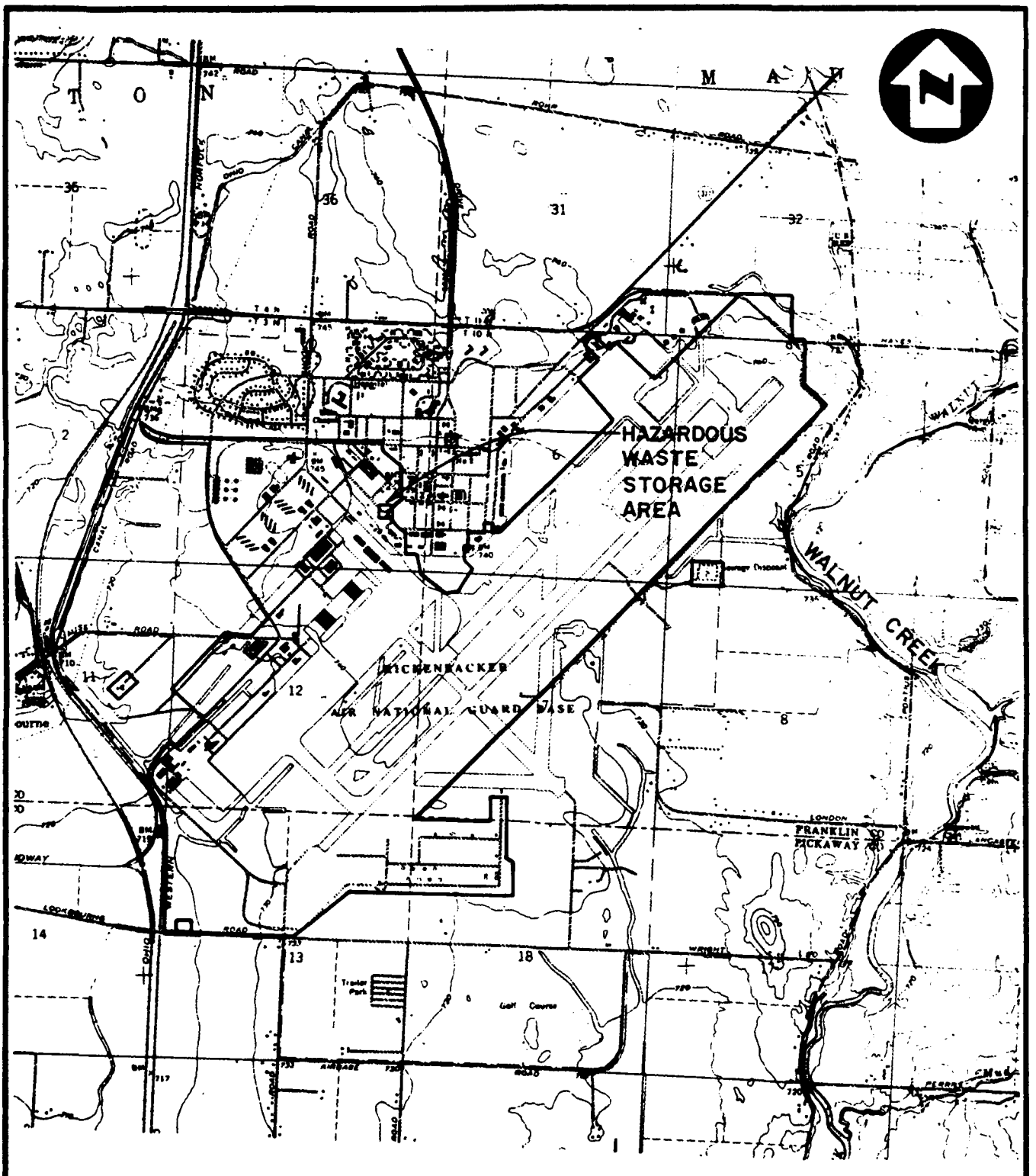


FIGURE 2

HAZARDOUS WASTE STORAGE AREA RICKENBACKER ANGB, OHIO

SOURCE:
BASE DETAILED
SECTIONAL MAPS

818861

SECTION 3.0

BACKGROUND

The Rickenbacker Air National Guard Base (the Base) is located 12 miles southeast of Columbus, Ohio, and one half mile east of the Village of Lockbourne (Figure 1). The facility has been in use as an air field since 1942 when it was activated as the Northeastern Training Center of the Army Air Corps. Portions of the facility are currently under ownership of the Rickenbacker Port Authority (RPA).

The former HWSA at the Base consists of Building 560 and the fenced in drum storage area southeast of the building. The site is under a Part A Permit for the storage of hazardous wastes, and was used to store drummed wastes from the Base from 1983 until September 1986. Materials that were stored here were spent solvents, cleaning fluids, acids, paint strippers, and spent desiccants. Four 25,000-gallon underground storage tanks (USTs) are located in the southeastern corner of the drum storage areas. One of the USTs is situated within the area defined by the perimeter fence of the drum storage area. The USTs are not described by the Part A Permit, and were not used to store hazardous waste. Two of the tanks have been used to store de-icing fluid, one tank for recyclable JP-4 jet fuel, and one tank for the storage of recyclable oil.

SECTION 4.0

FIELD INVESTIGATION PROGRAM

Field activities conducted during this investigation include groundwater screening, monitoring well installation and soil sampling from the well borings, surface soil sampling, and groundwater sampling.

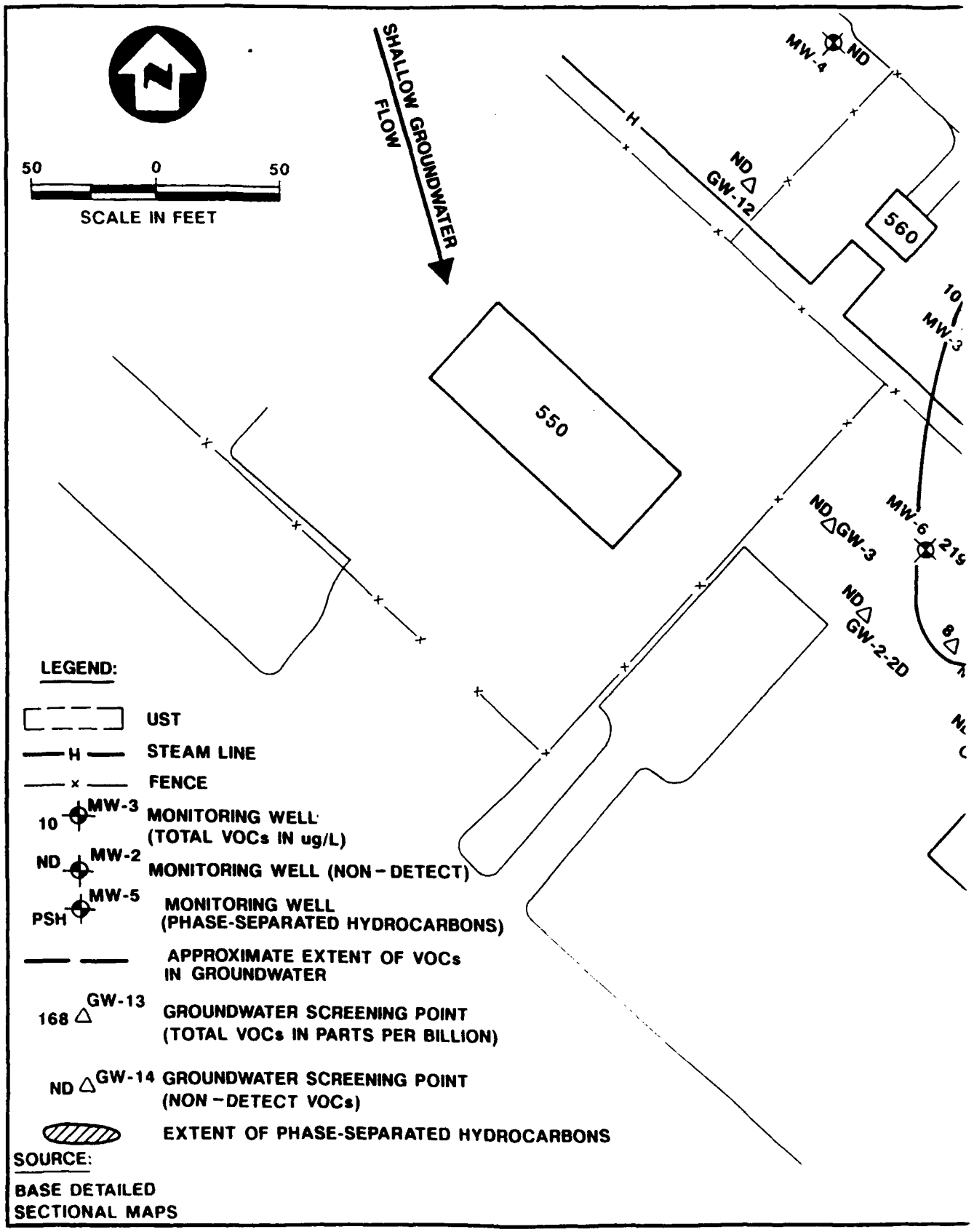
4.1 Groundwater Screening

A groundwater screening survey was conducted on 7 through 9 October 1991 to determine the extent of volatile organic compound (VOC) contamination previously detected in the groundwater at the HWSA. Groundwater screening samples were collected from the shallow aquifer, approximately 15 to 20 feet below grade, at eighteen locations on and around the HWSA using a GEOPROBE™ system. Locations of the screening points and the results of the analysis are contained on Figure 3.

The PSP proposed 24 groundwater sampling points. These would be installed downgradient (south and east) of the known contamination, and in the immediate vicinity of MW5.

The purpose of this sampling was twofold. The initial interest is to identify the extent of the contaminant plume and locate downgradient wells outside of the plume. The second interest is to further characterize the extent of phase-separated hydrocarbon (PSH) in the vicinity of MW5.

The GEOPROBE™ system utilizes a hydraulic hammer to drive a 3/4-inch, outer-diameter, steel probe to the water table. These probes have a 3/8-inch lumen and come in 3-foot sections which thread together. The downhole end of the probe is fitted with a stainless-steel, right-circular conical, sacrificial drive point. Upon reaching the desired depth of sample, the probe is extracted approximately six inches causing separation of the drive point and allowing groundwater to flow into the probe lumen. The groundwater screening sample is extracted from the probe using a clean Teflon™ tube equipped with a stainless steel check ball. The tube is surged inside the probe to enhance sample recovery. Typical sample recovery is 100 to 200 milliliters of water. The groundwater screening sample is then decanted directly from the Teflon™ tube into a standard 40 milliliter vial until the vial is half full, approximately 20 milliliters.


N
50
0
50
SCALE IN FEET
SHALLOW GROUNDWATER FLOW
MW-4 ND
H
ND GW-12
560
10 MW-3
550
MW-6 21
ND GW-3
ND GW-2-2D
8
LEGEND:
UST
STEAM LINE
FENCE
10 MW-3 MONITORING WELL (TOTAL VOCs IN ug/L)
ND MW-2 MONITORING WELL (NON-DETECT)
PSH MW-5 MONITORING WELL (PHASE-SEPARATED HYDROCARBONS)
APPROXIMATE EXTENT OF VOCs IN GROUNDWATER
168 GW-13 GROUNDWATER SCREENING POINT (TOTAL VOCs IN PARTS PER BILLION)
ND GW-14 GROUNDWATER SCREENING POINT (NON-DETECT VOCs)
EXTENT OF PHASE-SEPARATED HYDROCARBONS
SOURCE:
BASE DETAILED SECTIONAL MAPS

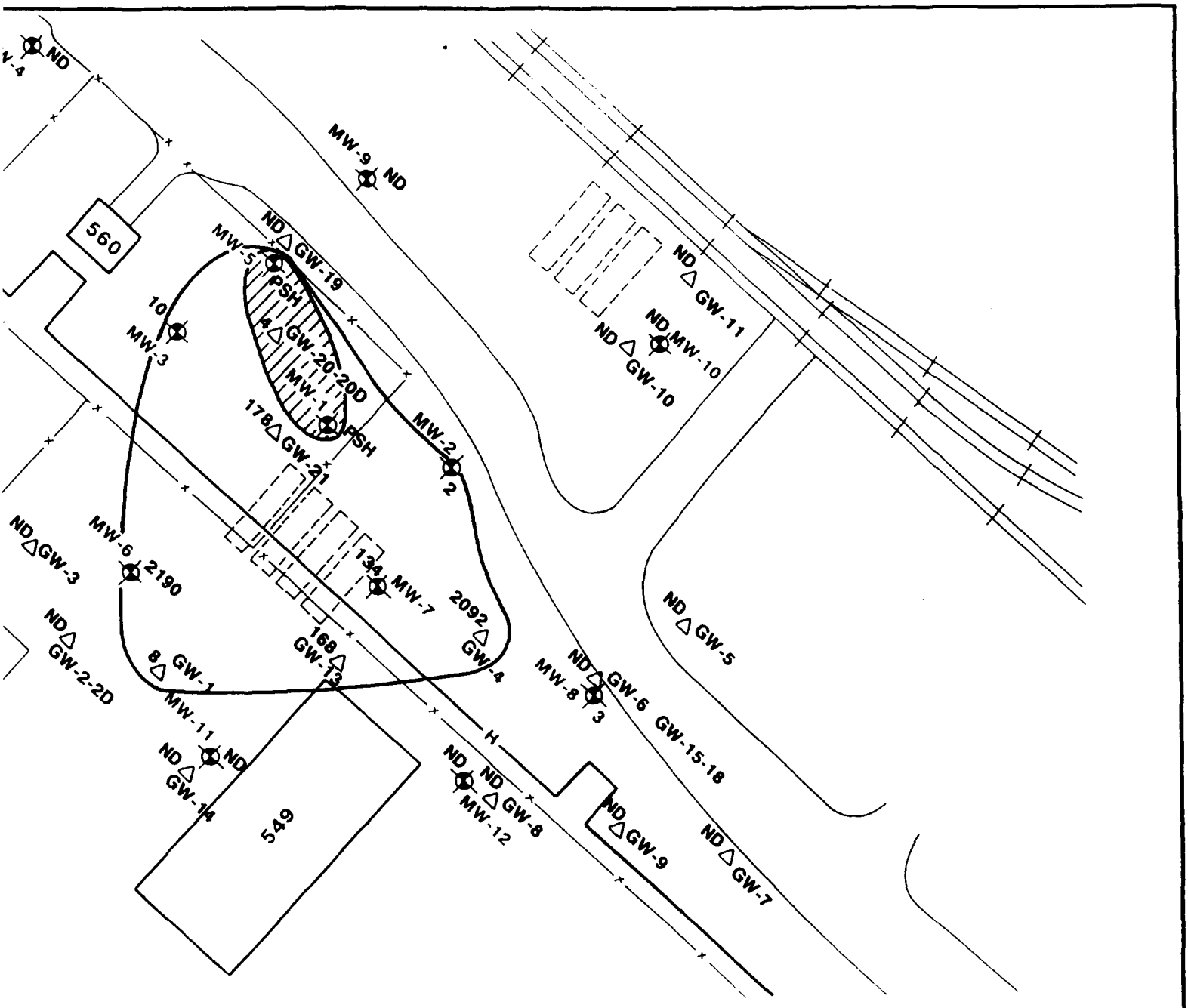


FIGURE 3

HAZARDOUS WASTE STORAGE AREA
EXTENT OF VOCs in SHALLOW GROUNDWATER
RICKENBACKER ANGB, OHIO

Duplicate screening samples in the ratio of one for every ten total samples are also collected.

The headspace of the vial was analyzed immediately on site in a Hewlett-Packard 5890A Series II gas chromatograph equipped with a flame ionization detector. The method of analysis used is a modified United States (US) Environmental Protection Agency (EPA) Method 601/602. The analytical process takes approximately one-half hour per sample and is capable of detecting calibrated compounds of 1 microgram per liter (μg/L) or greater. The chromatograph was calibrated specifically for analysis of the headspace vapor.

The results of the groundwater screening technique allow for rapid delineation of extent of target compounds in groundwater. The target compounds used in this survey include benzene, toluene, ethylbenzene, xylenes, and trichloroethylene which had been detected in groundwater samples from existing monitoring wells at this site.

Decontamination procedures for the probes comply with those outlined in the PSP. Used Teflon™ tubing was discarded, and new tubing was used for each sample.

4.2 Monitoring Well Installation

Three monitoring wells were sited and drilled based on the results of the groundwater screening. These wells were drilled, sampled and constructed in accordance with the procedures outlined in the PSP. Locations of these wells are identified on Figure 3 of this report. Soil samples were obtained for analysis during the boring of these monitoring wells. Boring logs and monitoring well construction logs are contained in Appendix A of this report.

The wells were located in areas downgradient of the known contaminant plume adjacent to groundwater screening locations which had not indicated detectable target VOCs. The PSP proposed the installation of six monitoring wells. Three wells were omitted because the plume was not as extensive as described in the PSP, and there was no indication of groundwater contamination near the three USTs northeast of the site.

4.3 Surface Soil Sampling

Surface soil samples were collected from ten locations near the westernmost corner of the HWSA. Procedures used to collect these samples comply with those described in the PSP. One duplicate soil sample (SS 3 DUP) was also obtained.

The surface soil sampling locations were changed from the locations suggested in the PSP based on several factors which include accessibility, ease of sample recovery, and apparent use of the neighboring property. The neighboring property is used for salvage storage and is paved which would make sampling with a trowel difficult. The neighboring property was also under construction at the time of sampling further complicating access. The ten suggested sampling locations were changed at the request of the field team leader and approved by A. Harlick and T. Shope of HAZWRAP on 9 October 1991. The ten locations were evenly distributed between the HWSA fenceline and the fenceline associated with the neighboring property. the representatives of the OEPA were made aware of the field change the day of sampling.

4.4 Groundwater Sampling

Groundwater samples were collected from ten of the 12 wells on site. Wells MW1 and MW5 were not sampled due to measurable thicknesses of phase-separated hydrocarbons. Sample recovery from wells MW3, MW8, and MW9 were limited to VOCs because of poor groundwater recharge. Complete aliquots were collected from each of the other wells on site. The groundwater sampling was carried out in accordance with the procedures outlined in the PSP.

SECTION 5.0

FIELD INVESTIGATION FINDINGS

5.1 Groundwater Results

The data obtained through the groundwater screening and groundwater sampling were plotted on a map of the site (see Figure 3). The data indicate that VOC contamination is restricted to a relatively small area surrounding the four underground storage tanks (USTs) located at the southernmost corner of the site. Wells MW1 and MW5, where phase-separated hydrocarbons were observed, lie in the northern and furthest upgradient portion of this contaminant plume. The groundwater sampling data plotted in Figure 3 are also presented on Table 1. The downgradient edge of the VOC plume is well documented by the non-detect analyses of wells MW10, MW11, and MW12.

Groundwater analysis from the October 1991 field effort duplicated groundwater analysis from February 1990 for MW2 through MW8. The 1991 analysis indicated non-detectable VOCs in MW4, MW9, MW10, MW11, and MW12. The 1990 analysis indicated similar data for MW2, MW4 and MW9. Table 1 contains results from both the 1990 and 1991 sampling events.

5.2 Soil Results

Surface soil samples were collected at ten locations near the westernmost corner of the HWSA. Five of these samples were collected at the fenceline surrounding the site, the remaining five from locations off site. One sample (SS3) was collected in duplicate. All surface soil samples were analyzed for SVOCs and the priority pollutant metals. Soil samples were also obtained from two soil horizons during the boring of the three monitoring wells.

Results of the SVOC analyses were tabulated and totaled by sampling location. These totalled data are plotted on Figure 4 of this report and tabulated on Table 2. The higher concentrations of total SVOCs are associated with four of the five surface soil samples collected outside the HWSA compound.

TABLE 1
VOC'S IN GROUNDWATER SAMPLES
HAZARDOUS WASTE STORAGE AREA
RICKENBACKER ANGB, OHIO

PARAMETER	WELL IDENTIFICATION *									
	MW2	MW3	MW4	MW6	MW7	MW8	MW9	MW10	MW11	MW12
benzene	<10	<10	<10	<100	19	<10	<10	<10	<10	<10
toluene	<10	<10	<10	<100	25	<10	<10	<10	<10	<10
ethylbenzene	<10	<10	<10	<100	62	<10	<10	<10	<10	<10
xylenes(total)	<10	<10	<10	<100	36	<10	<10	<10	<10	<10
1,2-DDE(total)	<10	<10	<10	190	<10	<10	<10	<10	<10	<10
1,1,1-TCA	25	<10	<10	<100	<10	3J	<10	<10	<10	<10
TCE	<10	10	<10	200	<10	<10	<10	<10	<10	<10
VC	<10	<10	<10	<100	17	<10	<10	<10	<10	<10

* Montitoring wells MW1 and MW5 were not sampled due to phase-seperated HC.

COUMPOUNDS DETECTED IN GROUNDWATER SAMPLES
HAZRDOUS WASTE STORAGE AREA
RICKENBACKER ANGB, OHIO
1990 SAMPLING RESULTS

PARAMETER	WELL IDENTIFICATION			
	MW1	MW3	MW6	MW7
trans-1,2-Dichloroethene	--	--	8	--
trichloroethene	--	7	78	--
benzene	560D	--	--	200
ethylbenzene	110	--	--	90
m/p-xylene	35	--	--	21J
o-xylene	86	--	--	70

PARAMETER	WELL IDENTIFICATION
	MW8
2-Methylnaphthalene	5J

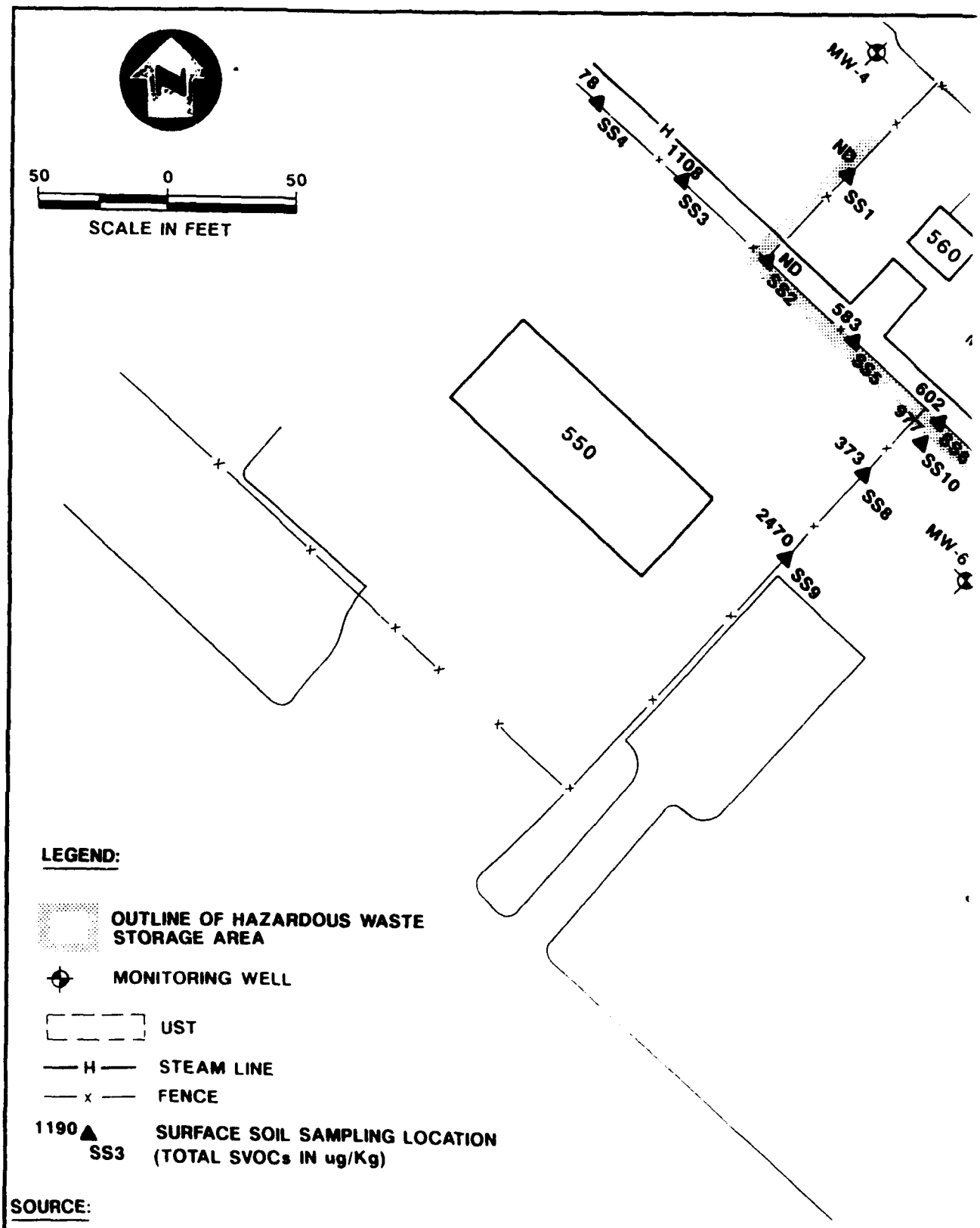
J - The value reported is an estimated concentration.
Results given in ug/L.

TABLE 2
SVOC'S DETECTED IN
SOIL SAMPLES
HAZARDOUS WASTE STORAGE AREA
RICKENBACKER ANGB, OHIO

SEMI-VOLATILE PARAMETER	SS1	SS2	SS3	SS3 dup	SS4	SS5	SS6	SS7	SS8	SS9	SS10
anthracene	<380	<380	<390	<390	<360	<360	76J	<350	<390	<370	<370
benzo(a) anthracene	<380	<380	84J	<390	<360	<360	<350	<350	<390	280J	86J
benzo(a) pyrene	<380	<380	<390	<390	<360	<360	<350	<350	<390	<370	<370
benzo(b) fluoranthene	<380	<380	150J	<390	<360	87J	160J	<350	<390	520	150J
benzo(k) fluoranthene	<380	<380	170J	<390	<360	<360	<350	<350	<390	<370	<370
bis(2-ethylhexyl) phthalate	<380	<380	<390	<390	<360	240J	<350	<350	160J	220J	<370
butylbenzylphthalate	<380	<380	<390	<390	<360	<360	<350	<350	<390	<370	<370
carbazole	<380	<380	<390	<390	<360	<360	<350	<350	<390	<370	<370
chrysene	<380	<380	130J	<390	<360	76J	<350	<350	<390	330J	140J
fluoranthene	<380	<380	210J	100J	<360	100J	100J	<350	93J	380	220J
indeno(1,2,3-cd) pyrene	<380	<380	84J	<390	<360	<360	<350	<350	<390	<370	81J
phenathrene	<380	<380	110J	<390	<360	<360	76J	<350	<390	310J	120J
pyrene	<380	<380	170J	110J	78J	80J	190J	<350	120J	430	180J
TOTAL SVOCs	ND	ND	1108	210	78	583	602	ND	373	2470	977

SEMI-VOLATILE PARAMETER	MW10 (3-5)	MW10 (13-15)	MW11 (3-5)	MW11 (13-15)	MW12 (3-5)	MW12 (13-15)
anthracene	<380	<420	<370	<380	<380	82J
benzo(a) anthracene	<380	<420	<370	<380	<380	110J
benzo(a) pyrene	<380	<420	<370	<380	<380	87J
benzo(b) fluoranthene	<380	<420	<370	<380	<380	110J
benzo(k) fluoranthene	<380	<420	<370	<380	<380	<360
bis(2-ethylhexyl) phthalate	140J	440	290J	120J	300J	340J
butylbenzylphthalate	<380	<420	<370	<380	<380	<360
carbazole	<380	<420	<370	<380	<380	190J
chrysene	<380	<420	<370	<380	<380	130J
fluoranthene	<380	<420	<370	<380	<380	310J
indeno(1,2,3-cd) pyrene	<380	<420	<370	<380	<380	<360
phenathrene	<380	<420	<370	<380	<380	300j
pyrene	<380	<420	<370	<380	<380	250J
TOTAL SVOCs	140	440	290	120	300	1909

Data given in units of ug/kg.


50
0
50
SCALE IN FEET
MW-4
78
SS4
1108
SS3
ND
SS1
560
ND
SS2
583
602
971
SS10
373
SS8
2470
SS9
MW-6
550
LEGEND:
OUTLINE OF HAZARDOUS WASTE STORAGE AREA
MONITORING WELL
UST
H
STEAM LINE
x
FENCE
1190
SS3
SURFACE SOIL SAMPLING LOCATION (TOTAL SVOCs IN ug/Kg)
SOURCE:
BASE DETAILED SECTIONAL MAPS

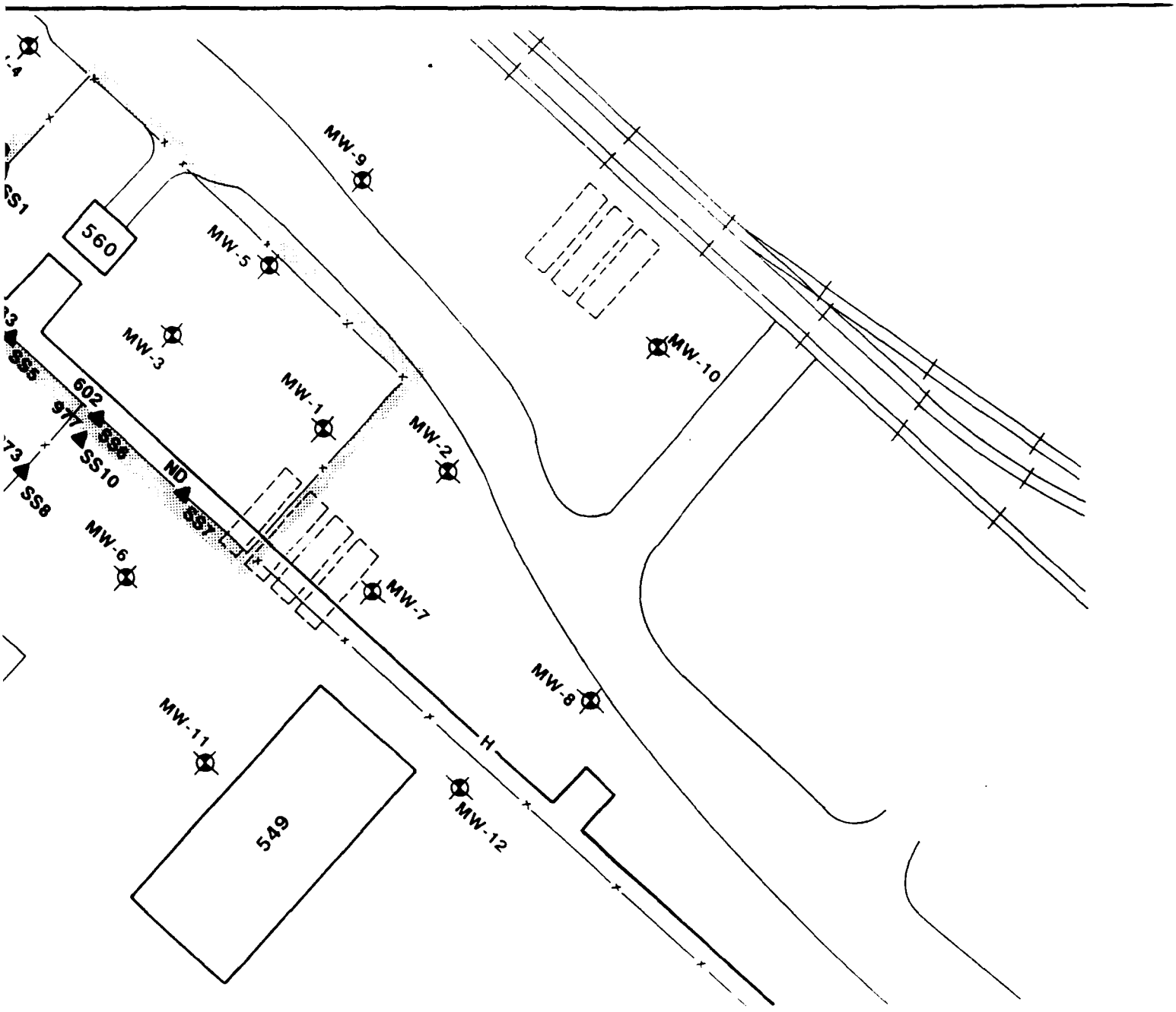


FIGURE 4

HAZARDOUS WASTE STORAGE AREA

TOTAL SVOCs IN SURFACE SOILS

RICKENBACKER ANGB, OHIO

TABLE 3
METALS ABOVE BACKGROUND IN SOIL SAMPLES
HAZARDOUS WASTE STORAGE AREA
RICKENBACKER ANGB, OHIO

Parameter	Background	SS1	SS2	SS3	SS4	SS5	SS6	SS7	SS8
Arsenic	15.52	NE	NE	NE	NE	19.5SN*	16.2SN*	NE	NE
Beryllium	NE	NE	NE	NE	NE	NE	NE	NE	NE
Cadmium	0.33	0.63B	0.6B	1B	2.2	0.74B	0.9B	0.51B	1.5
Chromium	NE	NE	NE	NE	NE	NE	NE	NE	NE
Lead	22.9	23.1	28.8	38.6	86.5	39.8	184	NE	61.8
Zinc	170.36	179E	189E	NE	NE	199E	522E	NE	394E
Copper	38.19	NE	NE	49.2	NE	NE	NE	NE	NE
Nickel	42.14	NE	NE	NE	NE	NE	53.6	NE	NE
Silver	0.42	3	NE	NE	NE	NE	NE	NE	42.9

Parameter	SS9	SS10	MW10(3 – 5)	MW10(13 – 15)	MW11(3 – 5)	MW11(13 – 15)	MW12(3 – 5)	MW12(13 – 15)
Arsenic	15.6SN*	17.4SN*	19.8SN*	NE	NE	NE	20.7N*	NE
Beryllium	NE	NE	1	NE	0.41B	NE	NE	NE
Cadmium	1.7	1.1	NE	0.72B	0.83B	0.59B	0.52B	0.37B
Chromium	NE	NE	28.6*	NE	NE	NE	NE	NE
Lead	99.7	56.2	NE	NE	NE	NE	NE	NE
Zinc	441E	274	NE	NE	NE	NE	NE	NE
Copper	NE	NE	49.3	NE	NE	NE	33.4	NE
Nickel	NE	NE	NE	NE	NE	NE	NE	NE
Silver	NE	NE	NE	NE	NE	NE	NE	NE

NE – Background level not exceeded

These surface soil data, when related to existing semi-volatile data, indicate that the contamination in the area of SS5, SS6, and SS10 appear to be from within the HWSA. The contaminants detected in SS3, SS4, SS8 and SS9 appear to be unrelated to this HWSA since no SVOCs were detected in samples SS2 and SS1.

The soil samples from the well borings indicate levels of bis (2-ethylhexyl) phthalate from 120J to 440 in each of the samples. This compound was not detected in other subsurface soil samples. Although it does not appear to be a laboratory contaminant based upon the data validation notes contained in Appendix B of this report, due to the uniform distribution at which the compound was reported, and that the compound was not reported at the site previously, and that the compound was not reported in any groundwater samples, it may be suggested that bis (2-ethylhexyl) phthalate was introduced into the samples from an unknown source, and is not an actual contaminant at the site.

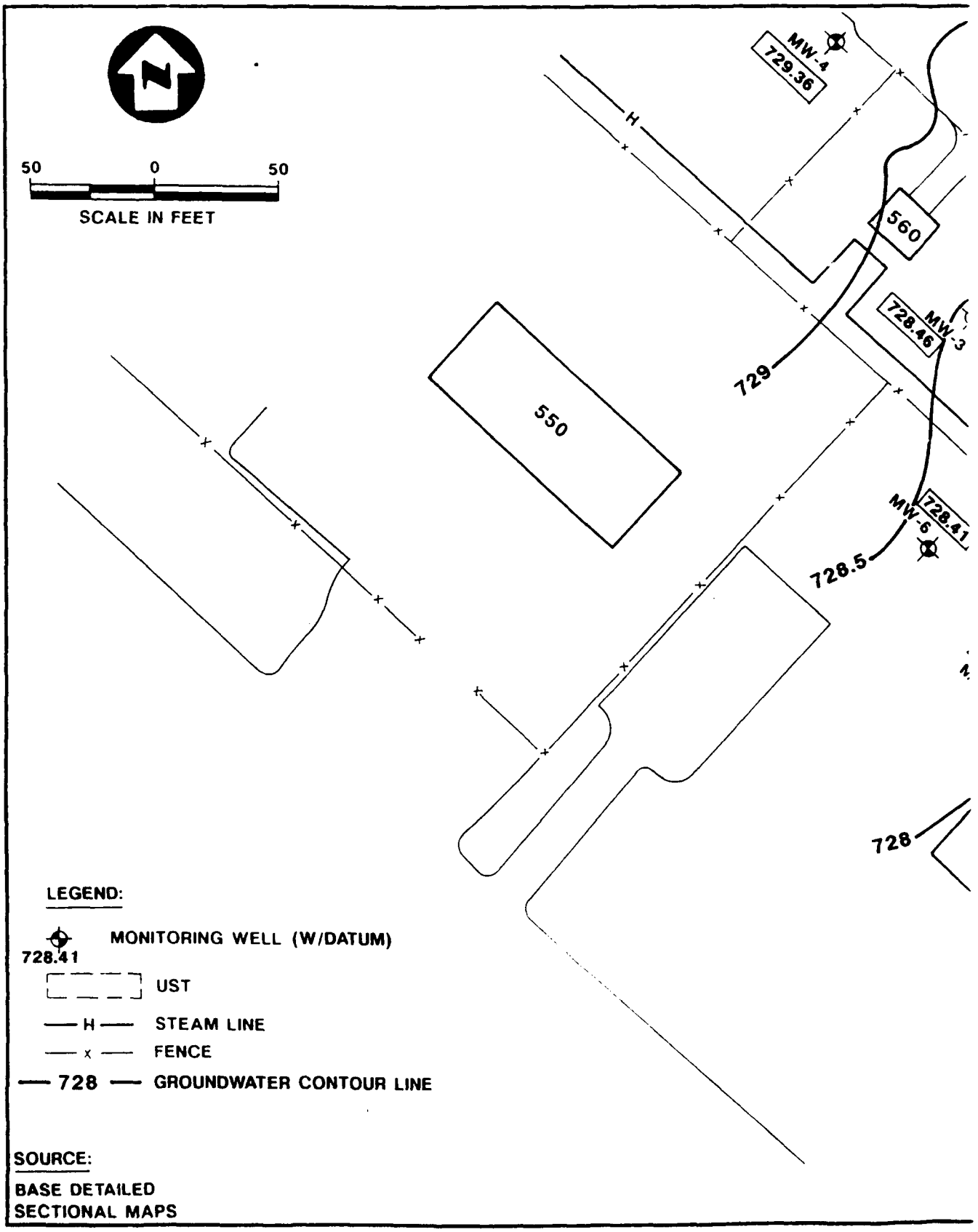
Soil sample MW12 (13-15) was obtained from the well boring for MW12 from the soil interval from 13-15 feet below grade. The analytical results (Table 2) from this sample indicate several SVOCs. None of these compounds was detected in the groundwater sample from this well. It may be assumed that these data are the result of a naturally occurring anomalous organic matter in the soil at that location.

Results of priority pollutant metals analyses of the shallow soils indicate the presence of several metals above the Base background established during the Installation Restoration Program investigation. The metals arsenic, cadmium, lead, zinc and to a limited extent copper, nickel and silver are found in concentrations in excess of background levels. Table 3 tabulates these data.

5.3 Hydrogeology

The three well borings advanced at the site during this field investigation, encountered materials of similar description to those seen previously at this site.

Soil from the ground surface down to eight feet is characterized by a medium brown silty clay, with trace amounts of pebbles. This layer grades into a grayish silty clay from eight to 14 feet, with moisture encountered at ten feet. Further description of soil and groundwater is contained in the Pre-Closure Sampling Report, draft, October 1990.


N
50
0
50
SCALE IN FEET
MW-4
729.36
H
560
728.46
MW-3
729
550
MW-5
728.41
728.5
728
LEGEND:
MONITORING WELL (W/DATUM)
728.41
UST
— H — STEAM LINE
— x — FENCE
— 728 — GROUNDWATER CONTOUR LINE
SOURCE:
BASE DETAILED
SECTIONAL MAPS

A

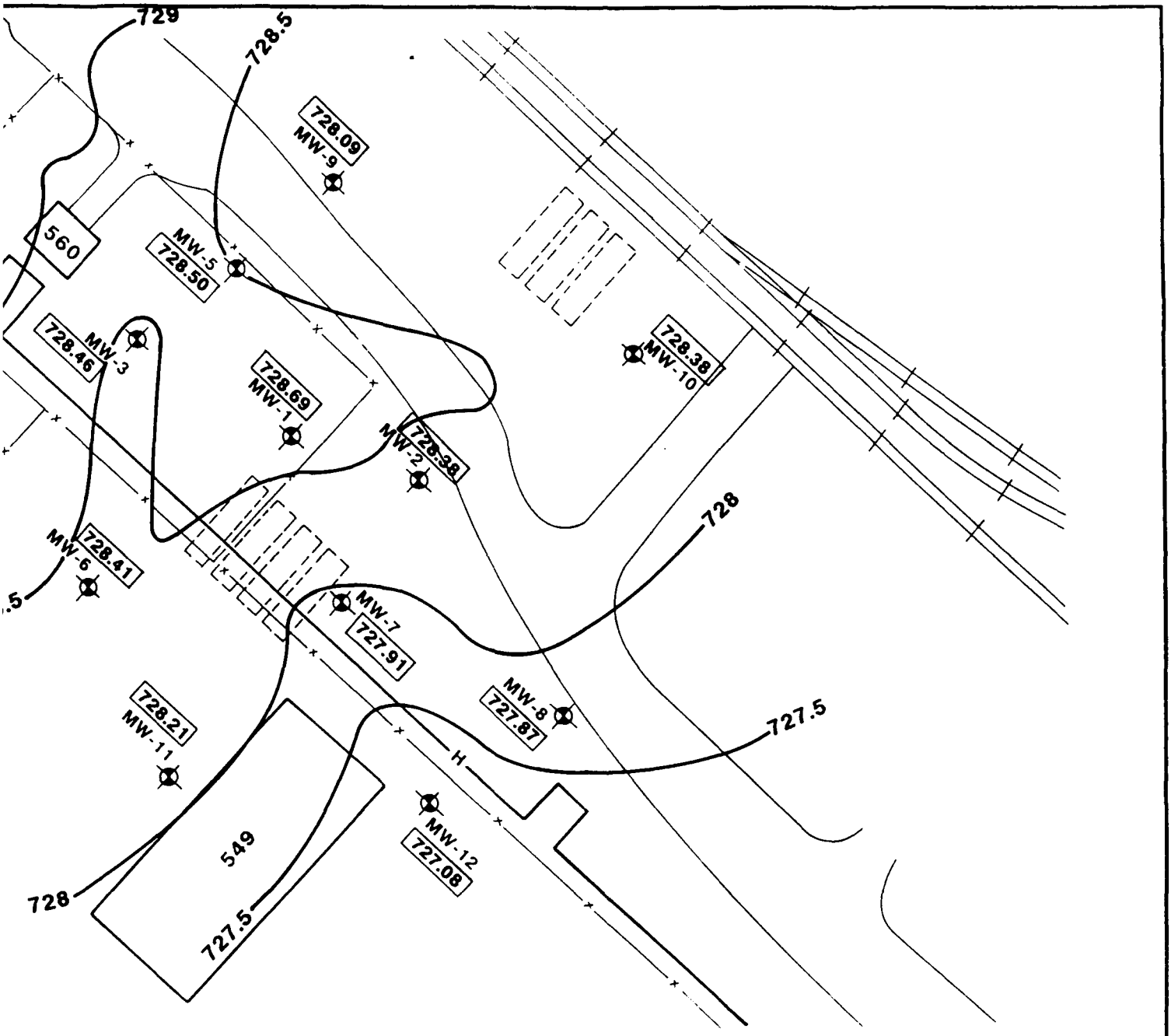


FIGURE 5

HAZARDOUS WASTE STORAGE AREA
GROUNDWATER ELEVATION MAP
17 OCTOBER 1991
RICKENBACKER ANGB, OHIO

TABLE 4
GROUNDWATER ELEVATIONS
17-Oct-91
HAZARDOUS WASTE STORAGE AREA
RICKENBACKER ANGB, OHIO

WELL	ELEVATION PROTECTIVE CASING	DEPTH TO FLUID	DEPTH TO WATER	GROUNDWATER ELEVATION
RB-HW-MW1	743.43	14.73	14.78	728.69
RB-HW-MW2	743.25	--	14.77	728.38
RB-HW-MW3	743.89	--	15.43	728.46
RB-HW-MW4	745.01	--	15.65	729.36
RB-HW-MW5	744.99	Sheen	16.49	728.50
RB-HW-MW6	744.99	--	16.58	728.41
RB-HW-MW7	745.16	--	17.25	727.91
RB-HW-MW8	743.74	--	15.87	727.87
RB-HW-MW9	745.12	--	17.03	728.09
RB-HW-MW10	742.44	--	14.06	728.38
RB-HW-MW11	744.04	--	15.83	728.21
RB-HW-MW12	742.87	--	15.79	728.08

Correction formula for PSH thickness.
Assume density of PSH to be 80% that of water
[(depth to water - depth to fluid) * 0.8] = correction.
Groundwater = depth to water + correction

Water levels in all 12 wells at this site were monitored on 17 October 1991. The groundwater elevation map generated using this data is illustrated on Figure 5 and tabulated on Table 4. It confirms groundwater flow to the southeast, and a slight rising of groundwater potentiometric surface near the USTs.

Wells MW3, MW8 and MW9 exhibited poor recharge during purging and sampling perhaps indicating severe impact from the dry summer preceding the investigation. According to the Monthly Water Inventory Report for Ohio which is published by the Ohio Department of Natural Resources, Division of Water, rainfall from May through October of 1991 was 7.68 inches below normal for the Columbus area.

SECTION 6.0

CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The analytical results indicate soil contamination in throughout the HWSA down to depths of over fifteen feet, as well as contamination of the groundwater with organic solvents and fuel components. Consequently, removal of all of the contamination, to effect a clean closure is not a practical option. The extent of contaminants at the HWSA has been defined, and a closure plan will be compiled for review and approval by the Ohio EPA.

6.2 Recommendations

An appropriate remediation method would initiate a groundwater cleanup engineered to remove contaminants from the groundwater at the site. The surface soils would remain in place during this operation. When groundwater quality is deemed to be acceptable, determination of status of the soils would be determined. Further evaluation of the risk to human health and the environment may be necessary during this final evaluation. Removal of the USTs at the HWSA is fundamental to instituting cleanup of this site.

SECTION 7.0

REFERENCES

Engineering-Science, Inc., Pre-Closure Sampling Report, Hazardous Waste Storage Area, draft October 1990, Addendum #6 to the Pre-Closure Sampling Plan

Crano, Nicolas and Eric Ahlgren, "Groundwater Survey, Rickenbacker ANGB, Ohio", October 1991 Burlington Environmental\Mathes Division

APPENDIX A

MONITORING WELL LOGS/CONSTRUCTION DIAGRAMS

REV DATE JAN 1989

BORING LOG	BORING/WELL NO.: RB-HW-MW10	Page 1 of 1
Installation: RICKENBACKER ANGB		Site: HWSA-560
project No.: CL115.40	Client/Project: HAZWRAP	
HAZWRAP Contractor: ENGINEERING-SCIENCE	Drlg Contractor: JOHN MATHES & ASSOC.	Driller:
Drlg Started: 10/14/91 (10:55 A m)	Drlg Ended: 10/14/91 (11:30 A m)	Borehole dia(s): 6"
Drlg Method/Rig Type: HOLLOW STEM AUGER/CME-45		
Logged by: RLPATTON	E-log(Y/N) From _____ to _____	Protection level: D

Depth (ft)	Sample	Sample No.	Lab Anal. (Y/N)	SHELL (hdsp (ppm) Recovery (	Lithologic Description	USCS	Blows/6 inch	Graphic Log	Well data	Water depth & Remarks	Elev. (ft)
0											
	S	1	Y	16	DRY, BROWN, SILTY CLAY, BROWN AND GREY MOTTLING, NO HC ODOR OR STAINING.		11 13 13 12				
5											
	S	2	N	12.8	DRY TO DAMP, BROWN, STIFF SILTY CLAY, NO HC ODOR OR STAINING.		5 6 12 17				
10											
	S	3	Y	11.4	GREY, VERY FINE GRAINED SAND WITH TRACE SILT, NO HC ODOR OR STAIN.		17 8 12 26				
15											
					BOH=18'.						
20											
25											
30											
35											

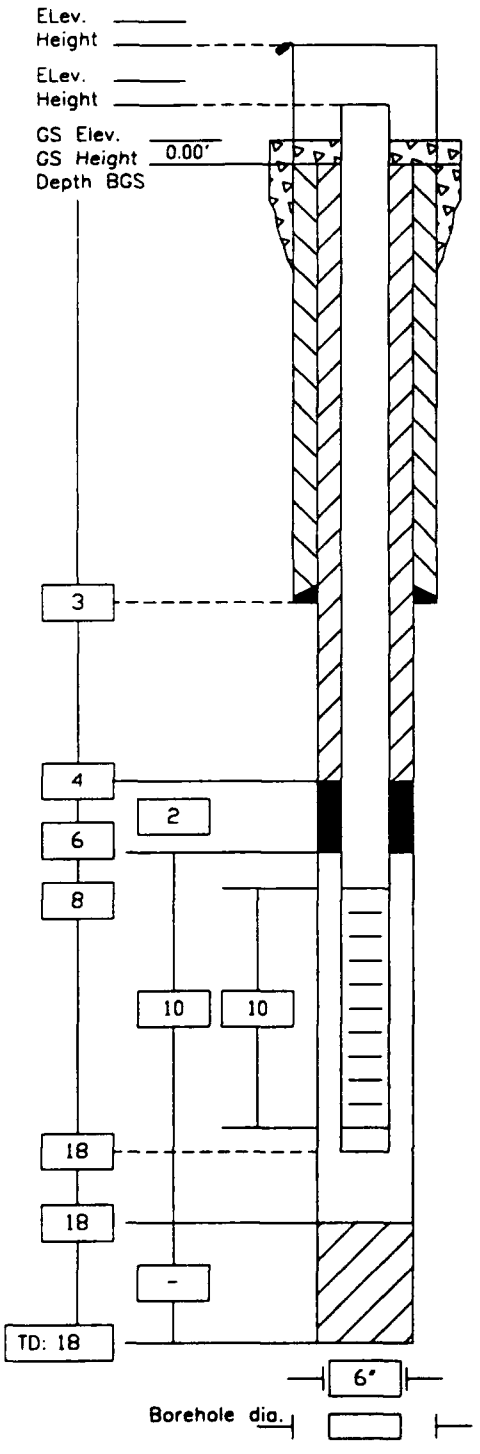
U = Thin wall tube
S = split spoon(tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Field G/C(Make/Mod.) _____
G/C Oper.: _____
Notes: _____

0115W10A
RX

FIGURE 4.2

REV. DATE: JAN 1989

MONITORING WELL CONSTRUCTION LOG – Double Cased		
WELL NO.: MW-10	Installation: RICKENBACKER ANGB	Site: HWSA-560
project No.: CL115.40	Client/Project: HAZWRAP	
HAZWRAP Contractor: ENGINEERING-SCIENCE	Drlg Contractor: MATHES & ASSOC.	
Comp. Start: 10/14/91 (11:30 A m)	Comp. End: 10/14/91 (13:55 Pm)	
Built By:	Well Coord:	



PROTECTIVE CSG
Material/Type STEEL
Diameter 4"
Depth BGS 3' Weep Hole (Y/(N))

GUARD POSTS ((Y)/N)
No. 3 Type STEEL

SURFACE PAD
Composition & Size 2'x2' CONCRETE

SURFACE CSG
Type
Diameter Total length
GROUT: Setup/Hydration Time
Composition & Proportions
Interval BGS
Tremied (Y/N)

RISER PIPE
Type SCH 40 PVC
Diameter 2"
Total Length (TOC to TOS) 11'
GROUT
Composition & Proportions
Interval BGS 0-4' BGS
Tremied (Y/(N))

CENTRALIZERS(Y/(N))
Depth(s)

SEAL
Type
Source
Setup/Hydration Time Vol. Fluid Added
Tremied (Y/N)

FILTER PACK
Type WASH OTTAWA SANDS
Amount Used 3 BAGS
Source
Gr. Size Dist
Tremied (Y/(N))

SCREEN
Type SCH 40 PVC
Diameter 2"
Slot Size & Type 0.010"

SUMP (Y/(N))
Interval BGS Length
Bottom Cap ((Y)/N)

BACKFILL PLUG
Material
Setup/Hydration Time
Tremied (Y/N)

0115W10B

REV DATE JAN 1989

BORING LOG	BORING/WELL NO.: RB-HW-MW11		Page 1 of 1
Installation: RICKENBACKER ANGB		Site: HWSA-560	
project No.: CL115.40	Client/Project: HAZWRAP		
HAZWRAP Contractor: ENGINEERING-SCIENCE	Drlg Contractor: JOHN MATHES & ASSOC.		Driller:
Drlg Started: 10/15/91 (09:35 Am)	Drlg Ended: 10/15/91 (10:30 A m)		Borehole dia(s): 6"
Drlg Method/Rig Type: HOLLOW STEM AUGER/CME-45			
Logged by: RLPATTON	E-log(Y/N) From _____ to _____		Protection level: D

Depth (ft)	Sample	Sample No.	Lab Anal. (Y/N)	SHELL Recovery (hdsp (ppm))	Lithologic Description	USCS	Blows/6 inch	Graphic Log	Well data	Water depth & Remarks	Elev. (ft)
0											
	S	1	Y	72.3	DRY, BROWN, SILTY CLAY, TRACE FINE LIMESTONE GRAVELS, NO HC ODOR OR STAINING.		13 25 19 16				
5											
	S	2	N	65.1	BROWN SILTY CLAY, DRY, NO HC ODOR OR STAIN, TRACE GRAVEL (FINE), GREY MOTTLING		9 13 18 18				
10											
	S	3	Y	32.1	GREYISH-BROWN SILT, CLAY W/TRACE SAND.		6				
					SAND, BROWN COARSE, AND GRAVEL, WET AND SILTY, NO HC ODOR OR STAINING.		6 8 20				
15											
					BOH=18'.						
20											
25											
30											
35											

U = Thin wall tube
S = split spoon(tube)
C = Cuttings

R = Rock coring _____
O = Other _____
Notes: _____

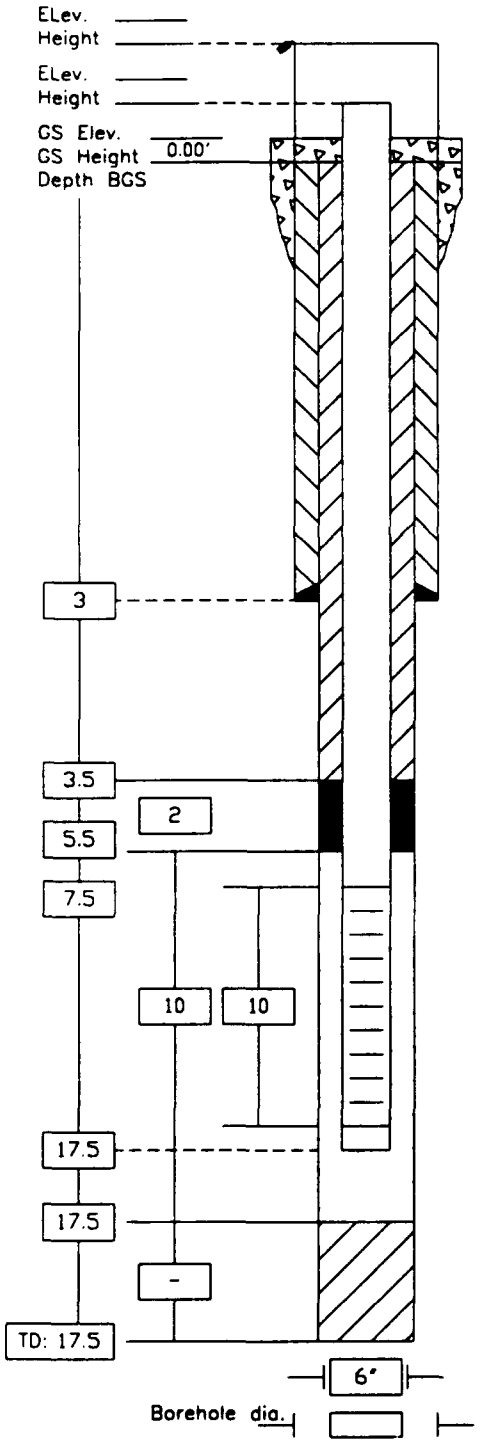
Field G/C(Make/Mod.) _____
G/C Oper.: _____

0115W11A
Rx

FIGURE 4.2

REV. DATE: JAN 1989

MONITORING WELL CONSTRUCTION LOG – Double Cased		
WELL NO.: MW-11	Installation: RICKENBACKER ANGB	Site: HWSA-56C
project No.: CL115.40	Client/Project: HAZWRAP	
HAZWRAP Contractor: ENGINEERING-SCIENCE	Drlg Contractor: MATHES & ASSOC.	
Comp. Start: 10/15/91 (10:30 A m)	Comp. End: 10/15/91 (13:30 Pm)	
Built By:	Well Coord:	



PROTECTIVE CSG
Material/Type STEEL
Diameter 4"
Depth BGS 3' Weep Hole (Y/(N))

GUARD POSTS ((Y)/N)
No. 3 Type STEEL

SURFACE PAD
Composition & Size 2'x2' CONCRETE

SURFACE CSG
Type
Diameter Total length
GROUT: Setup/Hydration Time
Composition & Proportions
Interval BGS
Tremied (Y/N)

RISER PIPE
Type SCH 40 PVC
Diameter 2"
Total Length (TOC to TOS) 10.5
GROUT
Composition & Proportions
Interval BGS
Tremied (Y/(N))

CENTRALIZERS(Y/N)
Depth(s)

SEAL
Type 1/4" BENTONITE PELLETS
Source WYOMING
Setup/Hydration Time Vol. Fluid Added 2 GALLONS
Tremied (Y/(N))

FILTER PACK
Type OTTAWA WASHED SANDS
Amount Used 3 BAGS
Source
Gr. Size Dist
Tremied (Y/N)

SCREEN
Type SCH 40 PVC
Diameter 2"
Slot Size & Type 0.010"

SUMP (Y/(N))
Interval BGS Length
Bottom Cap (Y/N)

BACKFILL PLUG
Material
Setup/Hydration Time
Tremied (Y/(N))

0115W11B

REV. DATE JAN 1989

BORING LOG	BORING/WELL NO.: RB-HW-MW12	Page 1 of 1
Installation: RICKENBACKER ANGB		Site: HWSA-560
project No.: CL115.40	Client/Project: HAZWRAP	
HAZWRAP Contractor: ENGINEERING-SCIENCE	Drlg Contractor: JOHN MATHES & ASSOC.	Driller:
Drlg Started: 10/15/91 (14:30 P m)	Drlg Ended: 10/15/91 (15:00 P m)	Borehole dia(s):
Drlg Method/Rig Type: HOLLOW STEM AUGER/CME-45		
Logged by: RLPATTON	E-log(Y/N) From _____ to _____	Protection level: D

Depth (ft)	Sample	Sample No.	Lab Anal. (Y/N)	SHELL hasp (ppm) Recovery	Lithologic Description	USCS	Blows/6 inch	Graphic Log	Well data	Water depth & Remarks	Elev. (ft)
0											
5	S	1	Y	43.1	BROWN AND GREY, STIFF, SILTY CLAY WITH TRACE LITHIC GRAVEL, NO HC ODOR OR STAINING.		7 6 6 7				
10	S	2	N	23	BROWN GREY SILTY CLAY, DAMP-TO-MOIST, SLIGHTY MOTTLED, TRACE LITHIC GRAVEL, NO HC ODOR OR STAINING.		8 12 12 16				
15	S	3	Y	24.5	SPOON WET; BROWN CSE SAND AND FINE GRAVEL, NO HC ODOR OR STAINING.		- - 25 -				
20					BOH=18'.						
25											
30											
35											

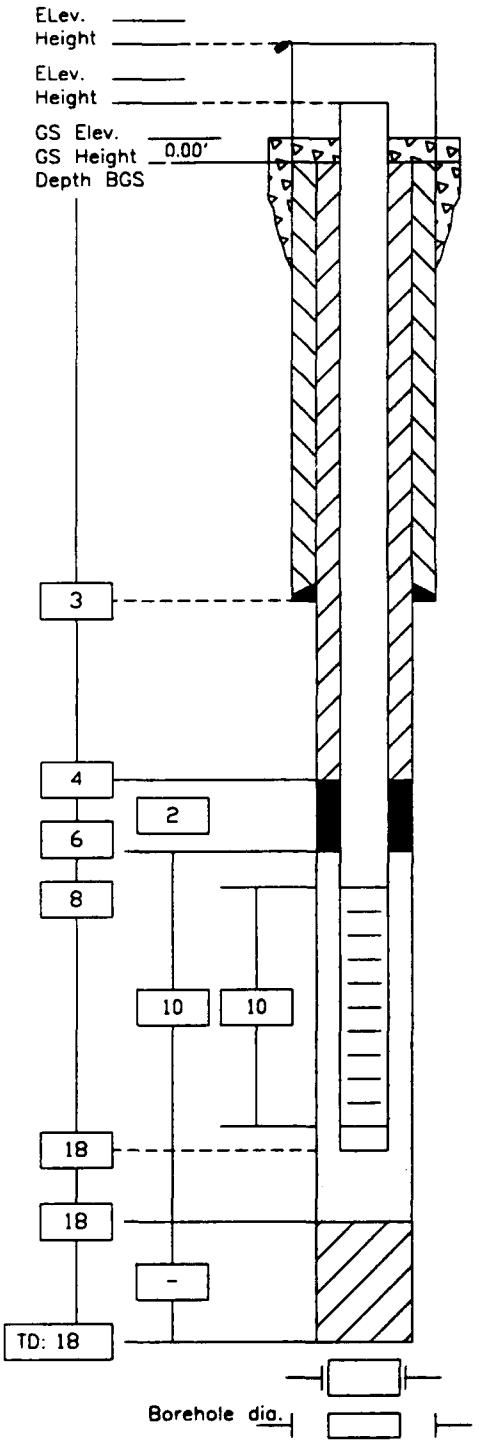
U = Thin wall tube
S = split spoon(tube)
C = Cuttings
R = Rock coring _____
O = Other _____
Notes: _____
Field G/C(Make/Mod.) _____
G/C Oper.: _____

0115W12A
RX

FIGURE 4.2

REV. DATE: JAN 1989

MONITORING WELL CONSTRUCTION LOG – Double Cased		
WELL NO.: MW-12	Installation: RICKENBACKER ANGB	Site: HWSA-560
project No.: CL115.40	Client/Project: HAZWRAP	
HAZWRAP Contractor: ENGINEERING-SCIENCE	Drlg Contractor: MATHES & ASSOC.	
Comp. Start: 10/15/91 (15:00 P m)	Comp. End: 10/16/91 (11:00 A m)	
Built By:	Well Coord:	



PROTECTIVE CSG
Material/Type STEEL
Diameter 4"
Depth BGS 3' Weep Hole (Y/(N))

GUARD POSTS (Y/N)
No. 3 Type STEEL

SURFACE PAD
Composition & Size 2'x2' CONCRETE

SURFACE CSG
Type
Diameter Total length
GROUT: Setup/Hydration Time
Composition & Proportions
Interval BGS
Tremied (Y/N)

RISER PIPE
Type SCH 40 PVC
Diameter 2"
Total Length (TOC to TOS) 11'
GROUT
Composition & Proportions
Interval BGS
Tremied (Y/(N))

CENTRALIZERS(Y/(N))
Depth(s)

SEAL
Type BENTONITE PELLETS
Source WYOMING
Setup/Hydration Time Vol. Fluid Added 2 GALLONS
Tremied (Y/(N))

FILTER PACK
Type OTTAWA SANDS
Amount Used 3 BAGS
Source
Gr. Size Dist
Tremied (Y/N)

SCREEN
Type SCH 40 PVC
Diameter 2"
Slot Size & Type 0.010"

SUMP (Y/(N))
Interval BGS Length
Bottom Cap (Y/N)

BACKFILL PLUG
Material
Setup/Hydration Time
Tremied (Y/N)

0115W128

APPENDIX B

ANALYTICAL DATA VALIDATION NOTES

APPENDIX B
ANALYTICAL DATA VALIDATION NOTES

This appendix presents a summary and review of quality assurance and quality control results for the laboratory analysis of H^2O and soil samples collected during 1991 phase of the site investigation at Rickenbacker Air National Guard Base (the Base) in Columbus, Ohio. The analyses were performed by Engineering-Science (ES) Berkeley Laboratory (BL).

The results from ESBL are divided into data packages which are assigned a work order (WO) number. Each package contains the required quality control documentation. Contract Laboratory Protocol (CLP) methods were required at the time of these analyses according to "CLP Laboratory Data Validation EPA Functional Guidelines for Evaluating Organics and Inorganic Analyses."

Each package was validated by reviewing holding times, method blanks, matrix spike/matrix spike duplicates and field quality control samples. If the criteria as specified by the EPA guidelines were not met, action was taken to indicate the discrepancy. Validation notes will be "flagged" concerning any non-compliance to CLP protocol.

The analytical results of the environmental and quality control samples were evaluated to assess the representativeness, precision and accuracy, comparability and completeness of the data. Representativeness was evaluated from the analytical results of the trip blanks, field blanks, rinseate blanks, method blanks and field duplicate samples. Precision and accuracy were evaluated by reviewing the laboratory matrix spike sample (MS), and the matrix spike duplicate sample (MSD). The comparability was evaluated by reviewing duplicate sample results. The completeness was evaluated by reviewing the chain-of-custody with results.

All samples were analyzed within EPA data validation technical holding times. Holding times are designated periods by EPA from sampling date to time of analysis.

Data Validation Flags - The following exceptions were outside the CLP acceptance criteria and were acknowledged, or flagged accordingly. Data contained in Appendix C of this report, reflect all validation notes.

In the Method Blank (MSBNA911023) and ES Samples SS4 (3377-04), SS6 (3377-06), SS9 (3377-07) and 12-3-5 (3377-13), internal standard recoveries failed to meet acceptance criteria. Analysis of a second aliquot of these samples were conducted and gave similar results, indicating a possible matrix effect. The results of both analytical runs are presented; "RA" is appended to the sample identifiers for the second run.

Sample 11-13-15 Matrix Spike (MS) (3377-12MS) showed percent recoveries for n-nitroso-di-n-propylamine, 1,2,4-trichlorobenzene and pentachlorophenol that were below acceptance criteria. The Relative Percent Differences (RPD) for 1,2,4-trichlorobenzene acenaphthene and pentachlorophenol were above acceptance criteria. Analysis of a blank spike indicated the laboratory was in control with respect to these compounds.

Samples 10-13-15 (3377-10), 12-3-5 (3377-13), and 12-13-15 (3377-14), internal standard recoveries failed to meet acceptance criteria. Analyses of a second aliquot of these samples were conducted and gave similar results, indicating a possible matrix effect. The results of both analytical runs are presented; "RA" is appended to the sample identifiers for the second run.

Sample 12-13-15 (3377-14) showed high surrogate recovery of two out of three surrogates. Re-analysis produced acceptance results.

Preparation blanks and all Quality Control (QC) samples were analyzed using both Inductively Coupled Plasa (ICP) and Graphite Furnace Atomic Absorption (GFAA) methods, resulting in two sets of QC data (one by ICP, one by GFAA) for lead. All blank results which fall between the ICP Instrument Detection Limit (IDL) and five times the ICP IDL of lead are flagged with "Y". The GFAA lead results for sample 11-13 is the valid result for that sample. The ICP lead result for this sample is for QC purposes only.

The serial dilution sample result for zinc did not agree with the undiluted sample result for zinc within 10 percent, and the zinc result of the undiluted sample was greater than 50 times the zinc IDL. All zinc results in this batch are therefore flagged with "E".

Some analytical spike recoveries of selenium and thallium were less than 40 percent. These samples were diluted and re-analyzed; analytical spike recoveries were still less than 40 percent. These selenium and thallium results are flagged with "E".

In the method blank (MSBN911022) internal standard recoveries failed to meet acceptance criteria. Analysis of a second aliquot of this sample was conducted and gave similar results. All associated data were closely inspected. The laboratory has determined this non-conformance to be an isolated occurrence. The results of both analytical runs are presented; "RA" is appended to the sample identifiers for the second run.

Sample MW6 (3389-06) showed two surrogates in the base neutral fraction below acceptance criteria. Re-extraction and re-analysis showed one surrogate above acceptance criteria. The results of both analytical runs are presented; "RE" is appended to the sample identifiers for the second run. All target analytes were undetected in either of the two analyses.

Sample MW3 (3389-01) showed high surrogate recoveries. Re-analysis gave similar results, indicating a possible matrix effect. The results of both analytical runs are presented; "RE" is appended to the sample identifiers for the second run.

APPENDIX C

VALIDATED ANALYTICAL DATA

LEGEND FOR ORGANIC RESULT QUALIFIERS

U The compound was analyzed for but not detected.

J The value reported is an estimated concentration. This is used when:
1. The mass spectral data indicate the presence of a compound that meets identification criteria, but the result is less than the reporting limit;
2. Estimating the concentration for tentatively identified compounds (TICs) where a 1:1 response is assumed.

C This is used for pesticide results where identification has been confirmed by GC/MS.

B The analyte is found in the associated blank as well as in the sample.

A A TIC is a suspected aldol-condensation product.

E This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis.

D This flag identifies a compound whose reported analytical result is calculated from a greater dilution than the primary analysis. The actual dilution used to calculate the analytical result is reported either on the report or in the case narrative.

N Indicates presumptive evidence of a compound. This flag is only used for TICs, where the identification is based on a mass spectral library search. It is applied to all TIC results.

LEGEND FOR INORGANIC RESULT QUALIFIERS

B	Reported value is less than Reporting limit but greater than the IDL.
N	Spiked sample recovery not within control limits.
S	Reported value was determined by the Method of Standard Additions.
*	Duplicate analysis not within control limits.
W	Post digestion spike for Furnace AA analysis out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance.
+	Correlation co-efficient for the MSA is less than 0.995.
E	The reported value is estimated because of the presence of interference.
R	Quality Control indicates that data are not usable (compound may or may not be present). Re-sampling and re-analysis is necessary for verification.

Sample Identification	SS1	SS2	SS3	SS3DUP	SS4	SS4
Date of Sample	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91
Matrix:	Solid	Solid	Solid	Solid	Solid	Solid reanalysis
Semi-Volatile compounds: reporting units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Phenol	380 U	380 U	390 U	390 U	360 U	360 U
Bis(2-chloroethyl)ether	380 U	380 U	390 U	390 U	360 U	360 U
2-Chlorophenol	380 U	380 U	390 U	390 U	360 U	360 U
1,3-Dichlorobenzene	380 U	380 U	390 U	390 U	360 U	360 U
1,4-Dichlorobenzene	380 U	380 U	390 U	390 U	360 U	360 U
1,2-Dichlorobenzene	380 U	380 U	390 U	390 U	360 U	360 U
2-Methylphenol	380 U	380 U	390 U	390 U	360 U	360 U
2,2'-oxybis(1-Chloropropane)	380 U	380 U	390 U	390 U	360 U	360 U
4-Methylphenol	380 U	380 U	390 U	390 U	360 U	360 U
N-Nitroso-di-n-propylamine	380 U	380 U	390 U	390 U	360 U	360 U
Hexachloroethane	380 U	380 U	390 U	390 U	360 U	360 U
Nitrobenzene	380 U	380 U	390 U	390 U	360 U	360 U
Isophorone	380 U	380 U	390 U	390 U	360 U	360 U
2-Nitrophenol	380 U	380 U	390 U	390 U	360 U	360 U
2,4-Dimethylphenol	380 U	380 U	390 U	390 U	360 U	360 U
bis(2-chloroethoxy)methane	380 U	380 U	390 U	390 U	360 U	360 U
2,4-Dichlorophenol	380 U	380 U	390 U	390 U	360 U	360 U
1,2,4-Trichlorobenzene	380 U	380 U	390 U	390 U	360 U	360 U
Naphthalene	380 U	380 U	390 U	390 U	360 U	360 U
4-Chloroaniline	380 U	380 U	390 U	390 U	360 U	360 U
Hexachlorobutadiene	380 U	380 U	390 U	390 U	360 U	360 U
4-Chloro-3-methylphenol	380 U	380 U	390 U	390 U	360 U	360 U
2-Methylnapthalene	380 U	380 U	390 U	390 U	360 U	360 U
Hexachlorocyclopentadiene	380 U	380 U	390 U	390 U	360 U	360 U
2,4,6-Trichlorophenol	380 U	380 U	390 U	390 U	360 U	360 U
2,4,5-Trichlorophenol	1900 U	1900 U	1900 U	1900 U	1800 U	1800 U
2-Chloronaphthalene	380 U	380 U	390 U	390 U	360 U	360 U
2-Nitroaniline	1900 U	1900 U	1900 U	1900 U	1800 U	1800 U
Dimethylphthalate	380 U	380 U	390 U	390 U	360 U	360 U
Acenaphthylene	380 U	380 U	390 U	390 U	360 U	360 U
2,6-Dinitrotoluene	380 U	380 U	390 U	390 U	360 U	360 U
3-Nitroaniline	1900 U	1900 U	1900 U	1900 U	1800 U	1800 U
Acenaphthene	380 U	380 U	390 U	390 U	360 U	360 U
4-Nitrophenol	1900 U	1900 U	1900 U	1900 U	1800 U	1800 U
Dibenzofuran	380 U	380 U	390 U	390 U	360 U	360 U
2,4-Dinitrotoluene	380 U	380 U	390 U	390 U	360 U	360 U
Diethylphthalate	380 U	380 U	390 U	390 U	360 U	360 U

Sample Identification	SS1	SS2	SS3	SS3DUP	SS4	SS4
Date of Sample	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91
Matrix:	Solid	Solid	Solid	Solid	Solid	Solid reanalysis
4-Chlorophenyl phenyl ether	380 U	380 U	390 U	390 U	360 U	360 U
Fluorene	380 U	380 U	390 U	390 U	360 U	360 U
4-Nitroaniline	1900 U	1900 U	1900 U	1900 U	1800 U	1800 U
4,6-Dinitro-2-methylphenol	1900 U	1900 U	1900 U	1900 U	1800 U	1800 U
N-Nitrosodiphenylamine	380 U	380 U	390 U	390 U	360 U	360 U
4-Bromophenyl phenyl ether	380 U	380 U	390 U	390 U	360 U	360 U
Hexachlorobenzene	380 U	380 U	390 U	390 U	360 U	360 U
Pentachlorophenol	1900 U	1900 U	1900 U	1900 U	1800 U	1800 U
Phenanthrene	380 U	380 U	110 J	390 U	360 U	360 U
Anthracene	380 U	380 U	390 U	390 U	360 U	360 U
Carbazole	380 U	380 U	390 U	390 U	360 U	360 U
Di-n-butylphthalate	150 J/U	890 U	82 J/U	960 B/U	270 J/U	310 J/U
Fluoranthene	380 U	380 U	210 J	100 J	360 U	360 U
Pyrene	380 U	380 U	170 J	110 J	78 J	360 U
Butylbenzylphthalate	380 U	380 U	390 U	390 U	360 U	360 U
3,3'-Dichlorobenzidine	770 U	770 U	790 U	790 U	730 U	730 U
Benzo(a)anthracene	380 U	380 U	84 J	390 U	360 U	360 U
Chrysene	380 U	380 U	130 J	390 U	360 U	360 U
bis(2-Ethylhexyl)phthalate	380 U	380 U	390 U	390 U	360 U	360 U
Di-n-octylphthalate	380 U	380 U	390 U	390 U	360 U	360 U
Benzo(b)fluoranthene	380 U	380 U	150 J	390 U	360 U	360 U
Benzo(k)fluoranthene	380 U	380 U	170 J	390 U	360 U	360 U
Benzo(a)pyrene	380 U	380 U	390 U	390 U	360 U	360 U
Indeno(1,2,3-cd)pyrene	380 U	380 U	84 J	390 U	360 U	360 U
Dibenzo(a,h)anthracene	380 U	380 U	390 U	390 U	360 U	360 U
Benzo(ghi)perylene	380 U	380 U	390 U	390 U	360 U	360 U

Sample Identification	SS5	SS6	SS6	SS7	SS8	SS9
Date of Sample	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91
Matrix:	Solid	Solid	Solid reanalysis	Solid	Solid	Solid
Semi-Volatile compounds: reporting units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Phenol	360 U	350 U	350 U	350 U	390 U	370 U
Bis(2-chloroethyl)ether	360 U	350 U	350 U	350 U	390 U	370 U
2-Chlorophenol	360 U	350 U	350 U	350 U	390 U	370 U
1,3-Dichlorobenzene	360 U	350 U	350 U	350 U	390 U	370 U
1,4-Dichlorobenzene	360 U	350 U	350 U	350 U	390 U	370 U
1,2-Dichlorobenzene	360 U	350 U	350 U	350 U	390 U	370 U
2-Methylphenol	360 U	350 U	350 U	350 U	390 U	370 U
2,2'-oxybis(1-Chloropropane)	360 U	350 U	350 U	350 U	390 U	370 U
4-Methylphenol	360 U	350 U	350 U	350 U	390 U	370 U
N-Nitroso-di-n-propylamine	360 U	350 U	350 U	350 U	390 U	370 U
Hexachloroethane	360 U	350 U	350 U	350 U	390 U	370 U
Nitrobenzene	360 U	350 U	350 U	350 U	390 U	370 U
Isophorone	360 U	350 U	350 U	350 U	390 U	370 U
2-Nitrophenol	360 U	350 U	350 U	350 U	390 U	370 U
2,4-Dimethylphenol	360 U	350 U	350 U	350 U	390 U	370 U
bis(2-chloroethoxy)methane	360 U	350 U	350 U	350 U	390 U	370 U
2,4-Dichlorophenol	360 U	350 U	350 U	350 U	390 U	370 U
1,2,4-Trichlorobenzene	360 U	350 U	350 U	350 U	390 U	370 U
Naphthalene	360 U	350 U	350 U	350 U	390 U	370 U
4-Chloroaniline	360 U	350 U	350 U	350 U	390 U	370 U
Hexachlorobutadiene	360 U	350 U	350 U	350 U	390 U	370 U
4-Chloro-3-methylphenol	360 U	350 U	350 U	350 U	390 U	370 U
2-Methylnapthalene	360 U	350 U	350 U	350 U	390 U	370 U
Hexachlorocyclopentadiene	360 U	350 U	350 U	350 U	390 U	370 U
2,4,6-Trichlorophenol	360 U	350 U	350 U	350 U	390 U	370 U
2,4,5-Trichlorophenol	1800 U	1700 U	1700 U	1700 U	1900 U	1800 U
2-Chloronaphthalene	360 U	350 U	350 U	350 U	390 U	370 U
2-Nitroaniline	1800 U	1700 U	1700 U	1700 U	1900 U	1800 U
Dimethylphthalate	360 U	350 U	350 U	350 U	390 U	370 U
Acenaphthylene	360 U	350 U	350 U	350 U	390 U	370 U
2,6-Dinitrotoluene	360 U	350 U	350 U	350 U	390 U	370 U
3-Nitroaniline	1800 U	1700 U	1700 U	1700 U	1900 U	1800 U
Acenaphthene	360 U	350 U	350 U	350 U	390 U	370 U
4-Nitrophenol	1800 U	1700 U	1700 U	1700 U	1900 U	1800 U
Dibenzofuran	360 U	350 U	350 U	350 U	390 U	370 U
2,4-Dinitrotoluene	360 U	350 U	350 U	350 U	390 U	370 U
Diethylphthalate	360 U	350 U	350 U	350 U	390 U	370 U

Sample Identification	SS5	SS6	SS6	SS7	SS8	SS9
Date of Sample	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91
Matrix:	Solid	Solid	Solid reanalysis	Solid	Solid	Solid
4-Chlorophenyl phenyl ether	360 U	350 U	350 U	350 U	390 U	370 U
Fluorene	360 U	350 U	350 U	350 U	390 U	370 U
4-Nitroaniline	1800 U	1700 U	1700 U	1700 U	1900 U	1800 U
4,6-Dinitro-2-methylphenol	1800 U	1700 U	1700 U	1700 U	1900 U	1800 U
N-Nitrosodiphenylamine	360 U	350 U	350 U	350 U	390 U	370 U
4-Bromophenyl phenyl ether	360 U	350 U	350 U	350 U	390 U	370 U
Hexachlorobenzene	360 U	350 U	350 U	350 U	390 U	370 U
Pentachlorophenol	1800 U	1700 U	1700 U	1700 U	1900 U	180[illegible] U
Phenanthrene	360 U	76 J	73 J	350 U	390 U	3[illegible] BJ
Anthracene	360 U	76 J	73 J	350 U	390 U	370 U
Carbazole	360 U	350 U	350 U	350 U	390 U	370 U
Di-n-butylphthalate	310 J/U	200 J/U	230 J/U	310 BJ/U	810 B/U	77 BJ/U
Fluoranthene	100 J	100 J	130 J	350 U	93 J	380 B
Pyrene	80 J	190 J	150 J	350 U	120 J	430 B
Butylbenzylphthalate	360 U	350 U	350 U	350 U	390 U	370 U
3,3'-Dichlorobenzidine	730 U	710 U	710 U	710 U	780 U	740 U
Benzo(a)anthracene	360 U	350 U	140 J	350 U	390 U	280 BJ
Chrysene	76 J	350 U	140 J	350 U	390 U	330 BJ
bis(2-Ethylhexyl)phthalate	240 J	350 U	350 U	350 U	160 J	220 BJ
Di-n-octylphthalate	360 U	350 U	350 U	350 U	390 U	370 U
Benzo(b)fluoranthene	87 J	160 J	170 J	350 U	390 U	520 B
Benzo(k)fluoranthene	360 U	350 U	350 U	350 U	390 U	370 U
Benzo(a)pyrene	360 U	350 U	350 U	350 U	390 U	370 U
Indeno(1,2,3-cd)pyrene	360 U	350 U	350 U	350 U	390 U	370 U
Dibenzo(a,h)anthracene	360 U	350 U	350 U	350 U	390 U	370 U
Benzo(ghi)perylene	360 U	350 U	350 U	350 U	390 U	370 U

Sample Identification	SS9	SS10	MW10(3-5)	MW10(13-15)	MW10(13-15)	MW11(3-5)
Date of Sample	16-Oct-91	16-Oct-91	14-Oct-91	14-Oct-91	14-Oct-91	15-Oct-91
Matrix:	Solid reanalysis	Solid	Solid	Solid	Solid	Solid
Semi-Volatile compounds: reporting units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Phenol	370 U	370 U	380 U	420 U	--	370 U
Bis(2-chloroethyl)ether	370 U	370 U	380 U	420 U	--	370 U
2-Chlorophenol	370 U	370 U	380 U	420 U	--	370 U
1,3-Dichlorobenzene	370 U	370 U	380 U	420 U	--	370 U
1,4-Dichlorobenzene	370 U	370 U	380 U	420 U	--	370 U
1,2-Dichlorobenzene	370 U	370 U	380 U	420 U	--	370 U
2-Methylphenol	370 U	370 U	380 U	420 U	--	370 U
2,2'-oxybis(1-Chloropropane)	370 U	370 U	380 U	420 U	--	370 U
4-Methylphenol	370 U	370 U	380 U	420 U	--	370 U
N-Nitroso-di-n-propylamine	370 U	370 U	380 U	420 U	--	370 U
Hexachloroethane	370 U	370 U	380 U	420 U	--	370 U
Nitrobenzene	370 U	370 U	380 U	420 U	--	370 U
Isophorone	370 U	370 U	380 U	420 U	--	370 U
2-Nitrophenol	370 U	370 U	380 U	420 U	--	370 U
2,4-Dimethylphenol	370 U	370 U	380 U	420 U	--	370 U
bis(2-chloroethoxy)methane	370 U	370 U	380 U	420 U	--	370 U
2,4-Dichlorophenol	370 U	370 U	380 U	420 U	--	370 U
1,2,4-Trichlorobenzene	370 U	370 U	380 U	420 U	--	370 U
Naphthalene	370 U	370 U	380 U	420 U	--	370 U
4-Chloroaniline	370 U	370 U	380 U	420 U	--	370 U
Hexachlorobutadiene	370 U	370 U	380 U	420 U	--	370 U
4-Chloro-3-methylphenol	370 U	370 U	380 U	420 U	--	370 U
2-Methylnapthalene	370 U	370 U	380 U	420 U	--	370 U
Hexachlorocyclopentadiene	370 U	370 U	380 U	420 U	--	370 U
2,4,6-Trichlorophenol	370 U	370 U	380 U	420 U	--	370 U
2,4,5-Trichlorophenol	1800 U	1800 U	1900 U	2000 U	--	1800 U
2-Chloronaphthalene	370 U	370 U	380 U	420 U	--	370 U
2-Nitroaniline	1800 U	1800 U	1900 U	2000 U	--	1800 U
Dimethylphthalate	370 U	370 U	380 U	420 U	--	370 U
Acenaphthylene	370 U	370 U	380 U	420 U	--	370 U
2,6-Dinitrotoluene	370 U	370 U	380 U	420 U	--	370 U
3-Nitroaniline	1800 U	1800 U	1900 U	2000 U	--	1800 U
Acenaphthene	370 U	370 U	380 U	420 U	--	370 U
4-Nitrophenol	1800 U	1800 U	1900 U	2000 U	--	1800 U
Dibenzofuran	370 U	370 U	380 U	420 U	--	370 U
2,4-Dinitrotoluene	370 U	370 U	380 U	420 U	--	370 U
Diethylphthalate	370 U	370 U	380 U	420 U	--	370 U

Sample Identification	SS9	SS10	MW10(3-5)	MW10(13-15)	MW10(13-15)	MW11(3-5)
Date of Sample	16-Oct-91	16-Oct-91	14-Oct-91	14-Oct-91	14-Oct-91	15-Oct-91
Matrix:	Solid reanalysis	Solid	Solid	Solid	Solid	Solid
4-Chlorophenyl phenyl ether	370 U	370 U	380 U	420 U	--	370 U
Fluorene	370 U	370 U	380 U	420 U	--	370 U
4-Nitroaniline	1800 U	1800 U	1900 U	2000 U	--	1800 U
4,6-Dinitro-2-methylphenol	1800 U	1800 U	1900 U	2000 U	--	1800 U
N-Nitrosodiphenylamine	370 U	370 U	380 U	420 U	--	370 U
4-Bromophenyl phenyl ether	370 U	370 U	380 U	420 U	--	370 U
Hexachlorobenzene	370 U	370 U	380 U	420 U	--	370 U
Pentachlorophenol	1800 U	1800 U	1900 U	2000 U	--	1800 U
Phenanthrene	310 J	120 J	380 U	420 U	--	370 U
Anthracene	370 U	370 U	380 U	420 U	--	370 U
Carbazole	370 U	370 U	380 U	420 U	--	370 U
Di-n-butylphthalate	370 U	460 U	380 U	420 U	--	320 J/U
Fluoranthene	410	220 J	380 U	420 U	--	370 U
Pyrene	360 J	180 J	380 U	420 U	--	370 U
Butylbenzylphthalate	120 J	370 U	380 U	420 U	--	370 U
3,3'-Dichlorobenzidine	740 U	750 U	770 U	840 U	--	740 U
Benzo(a)anthracene	280 J	86 J	380 U	420 U	--	370 U
Chrysene	340 J	140 J	380 U	420 U	--	370 U
bis(2-Ethylhexyl)phthalate	370 U	370 U	140 J	440	--	290 J
Di-n-octylphthalate	370 U	370 U	380 U	420 U	--	370 U
Benzo(b)fluoranthene	590	150 J	380 U	420 U	--	370 U
Benzo(k)fluoranthene	170 J	370 U	380 U	420 U	--	370 U
Benzo(a)pyrene	370 U	370 U	380 U	420 U	--	370 U
Indeno(1,2,3-cd)pyrene	180 J	81 J	380 U	420 U	--	370 U
Dibenzo(a,h)anthracene	370 U	370 U	380 U	420 U	--	370 U
Benzo(ghi)perylene	370 U	370 U	380 U	420 U	--	370 U

Sample Identification	MW11(13-15)	MW12(3-5)	MW12(3-5)	MW12(13-15)	MW12(13-15)	MW3
Date of Sample	15-Oct-91	15-Oct-91	15-Oct-91	15-Oct-91	15-Oct-91	17-Oct-91
Matrix:	Solid	Solid	Solid reanalysis	Solid	Solid reanalysis	Water
Semi-Volatile compounds: reporting units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/L
Phenol	380 U	380 U	380 U	360 U	--	--
Bis(2-chloroethyl)ether	380 U	380 U	380 U	360 U	--	--
2-Chlorophenol	380 U	380 U	380 U	360 U	--	--
1,3-Dichlorobenzene	380 U	380 U	380 U	360 U	--	--
1,4-Dichlorobenzene	380 U	380 U	380 U	360 U	--	--
1,2-Dichlorobenzene	380 U	380 U	380 U	360 U	--	--
2-Methylphenol	380 U	380 U	380 U	360 U	--	--
2,2'-oxybis(1-Chloropropane)	380 U	380 U	380 U	360 U	--	--
4-Methylphenol	380 U	380 U	380 U	360 U	--	--
N-Nitroso-di-n-propylamine	380 U	380 U	380 U	360 U	--	--
Hexachloroethane	380 U	380 U	380 U	360 U	--	--
Nitrobenzene	380 U	380 U	380 U	360 U	--	--
Isophorone	380 U	380 U	380 U	360 U	--	--
2-Nitrophenol	380 U	380 U	380 U	360 U	--	--
2,4-Dimethylphenol	380 U	380 U	380 U	360 U	--	--
bis(2-chloroethoxy)methane	380 U	380 U	380 U	360 U	--	--
2,4-Dichlorophenol	380 U	380 U	380 U	360 U	--	--
1,2,4-Trichlorobenzene	380 U	380 U	380 U	360 U	--	--
Naphthalene	380 U	380 U	380 U	360 U	--	--
4-Chloroaniline	380 U	380 U	380 U	360 U	--	--
Hexachlorobutadiene	380 U	380 U	380 U	360 U	--	--
4-Chloro-3-methylphenol	380 U	380 U	380 U	360 U	--	--
2-Methylnapthalene	380 U	380 U	380 U	360 U	--	--
Hexachlorocyclopentadiene	380 U	380 U	380 U	360 U	--	--
2,4,6-Trichlorophenol	380 U	380 U	380 U	360 U	--	--
2,4,5-Trichlorophenol	1800 U	1900 U	1900 U	1800 U	--	--
2-Chloronaphthalene	380 U	380 U	380 U	360 U	--	--
2-Nitroaniline	1800 U	1900 U	1900 U	1800 U	--	--
Dimethylphthalate	380 U	380 U	380 U	360 U	--	--
Acenaphthylene	380 U	380 U	380 U	360 U	--	--
2,6-Dinitrotoluene	380 U	380 U	380 U	360 U	--	--
3-Nitroaniline	1800 U	1900 U	1900 U	1800 U	--	--
Acenaphthene	380 U	380 U	380 U	360 U	--	--
4-Nitrophenol	1800 U	1900 U	1900 U	1800 U	--	--
Dibenzofuran	380 U	380 U	380 U	360 U	--	--
2,4-Dinitrotoluene	380 U	380 U	380 U	360 U	--	--
Diethylphthalate	380 U	380 U	380 U	360 U	--	--

Sample Identification	MW11(13-15)	MW12(3-5)	MW12(3-5)	MW12(13-15)	MW12(13-15)	MW3
Date of Sample	15-Oct-91	15-Oct-91	15-Oct-91	15-Oct-91	15-Oct-91	17-Oct-91
Matrix:	Solid	Solid	Solid reanalysis	Solid	Solid reanalysis	Water
4-Chlorophenyl phenyl ether	380 U	380 U	380 U	360 U	--	--
Fluorene	380 U	380 U	380 U	360 U	--	--
4-Nitroaniline	1800 U	1900 U	1900 U	1800 U	--	--
4,6-Dinitro-2-methylphenol	1800 U	1900 U	1900 U	1800 U	--	--
N-Nitrosodiphenylamine	380 U	380 U	380 U	360 U	--	--
4-Bromophenyl phenyl ether	380 U	380 U	380 U	360 U	--	--
Hexachlorobenzene	380 U	380 U	380 U	360 U	--	--
Pentachlorophenol	1800 U	1900 U	1900 U	1800 U	--	--
Phenanthrene	380 U	380 U	380 U	300 J	--	--
Anthracene	380 U	380 U	380 U	82 J	--	--
Carbazole	380 U	380 U	380 U	190 J	--	--
Di-n-butylphthalate	77 J/U	300 J/U	310 J/U	360 U	--	--
Fluoranthene	380 U	380 U	380 U	310 J	--	--
Pyrene	380 U	380 U	380 U	250 J	--	--
Butylbenzylphthalate	380 U	380 U	380 U	360 U	--	--
3,3'-Dichlorobenzidine	760 U	770 U	770 U	730 U	--	--
Benzo(a)anthracene	380 U	380 U	380 U	110 J	--	--
Chrysene	380 U	380 U	380 U	130 J	--	--
bis(2-Ethylhexyl)phthalate	120 J	300 J	270 J	340 J	--	--
Di-n-octylphthalate	380 U	380 U	380 U	360 U	--	--
Benzo(b)fluoranthene	380 U	380 U	380 U	110 J	--	--
Benzo(k)fluoranthene	380 U	380 U	380 U	360 U	--	--
Benzo(a)pyrene	380 U	380 U	380 U	87 J	--	--
Indeno(1,2,3-cd)pyrene	380 U	380 U	380 U	360 U	--	--
Dibenzo(a,h)anthracene	380 U	380 U	380 U	360 U	--	--
Benzo(ghi)perylene	380 U	380 U	380 U	360 U	--	--

Sample Identification	MW3	MW2	MW4	MW6	MW7	MW8
Date of Sample	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91
Matrix:	Water reanalysis	Water	Water	Water	Water	Water
Semi-Volatile compounds: reporting units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Phenol	--	10 U	10 U	10 U	10 U	--
Bis(2-chloroethyl)ether	--	10 U	10 U	10 U	10 U	--
2-Chlorophenol	--	10 U	10 U	10 U	10 U	--
1,3-Dichlorobenzene	--	10 U	10 U	10 U	10 U	--
1,4-Dichlorobenzene	--	10 U	10 U	10 U	10 U	--
1,2-Dichlorobenzene	--	10 U	10 U	10 U	10 U	--
2-Methylphenol	--	10 U	10 U	10 U	10 U	--
2,2'-oxybis(1-Chloropropane)	--	10 U	10 U	10 U	10 U	--
4-Methylphenol	--	10 U	10 U	10 U	10 U	--
N-Nitroso-di-n-propylamine	--	10 U	10 U	10 U	10 U	--
Hexachloroethane	--	10 U	10 U	10 U	10 U	--
Nitrobenzene	--	10 U	10 U	10 U	10 U	--
Isophorone	--	10 U	10 U	10 U	10 U	--
2-Nitrophenol	--	10 U	10 U	10 U	10 U	--
2,4-Dimethylphenol	--	10 U	10 U	10 U	10 U	--
bis(2-chloroethoxy)methane	--	10 U	10 U	10 U	10 U	--
2,4-Dichlorophenol	--	10 U	10 U	10 U	10 U	--
1,2,4-Trichlorobenzene	--	10 U	10 U	10 U	10 U	--
Naphthalene	--	10 U	10 U	10 U	6 J	--
4-Chloroaniline	--	10 U	10 U	10 U	10 U	--
Hexachlorobutadiene	--	10 U	10 U	10 U	10 U	--
4-Chloro-3-methylphenol	--	10 U	10 U	10 U	10 U	--
2-Methylnapthalene	--	10 U	10 U	10 U	2 J	--
Hexachlorocyclopentadiene	--	10 U	10 U	10 U	10 U	--
2,4,6-Trichlorophenol	--	10 U	10 U	10 U	10 U	--
2,4,5-Trichlorophenol	--	50 U	50 U	50 U	50 U	--
2-Chloronaphthalene	--	10 U	10 U	10 U	10 U	--
2-Nitroaniline	--	50 U	50 U	50 U	50 U	--
Dimethylphthalate	--	10 U	10 U	10 U	10 U	--
Acenaphthylene	--	10 U	10 U	10 U	10 U	--
2,6-Dinitrotoluene	--	10 U	10 U	10 U	10 U	--
3-Nitroaniline	--	50 U	50 U	50 U	50 U	--
Acenaphthene	--	10 U	10 U	10 U	10 U	--
4-Nitrophenol	--	50 U	50 U	50 U	50 U	--
Dibenzofuran	--	10 U	10 U	10 U	10 U	--
2,4-Dinitrotoluene	--	10 U	10 U	10 U	10 U	--
Diethylphthalate	--	10 U	10 U	10 U	10 U	--

Sample Identification	MW3	MW2	MW4	MW6	MW7	MW8
Date of Sample	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91
Matrix:	Water reanalysis	Water	Water	Water	Water	Water
4-Chlorophenyl phenyl ether	--	10 U	10 U	10 U	10 U	--
Fluorene	--	10 U	10 U	10 U	10 U	--
4-Nitroaniline	--	50 U	50 U	50 U	50 U	--
4,6-Dinitro-2-methylphenol	--	50 U	50 U	50 U	50 U	--
N-Nitrosodiphenylamine	--	10 U	10 U	10 U	10 U	--
4-Bromophenyl phenyl ether	--	10 U	10 U	10 U	10 U	--
Hexachlorobenzene	--	10 U	10 U	10 U	10 U	--
Pentachlorophenol	--	50 U	50 U	50 U	50 U	--
Phenanthrene	--	10 U	10 U	10 U	10 U	--
Anthracene	--	10 U	10 U	10 U	10 U	--
Carbazole	--	10 U	10 U	10 U	10 U	--
Di-n-butylphthalate	--	10 U	10 U	10 U	10 U	--
Fluoranthene	--	10 U	10 U	10 U	10 U	--
Pyrene	--	10 U	10 U	10 U	10 U	--
Butylbenzylphthalate	--	10 U	10 U	10 U	10 U	--
3,3'-Dichlorobenzidine	--	20 U	20 U	20 U	20 U	--
Benzo(a)anthracene	--	10 U	10 U	10 U	10 U	--
Chrysene	--	10 U	10 U	10 U	10 U	--
bis(2-Ethylhexyl)phthalate	--	10 U	10 U	10 U	10 U	--
Di-n-octylphthalate	--	10 U	10 U	10 U	10 U	--
Benzo(b)fluoranthene	--	10 U	10 U	10 U	10 U	--
Benzo(k)fluoranthene	--	10 U	10 U	10 U	10 U	--
Benzo(a)pyrene	--	10 U	10 U	10 U	10 U	--
Indeno(1,2,3-cd)pyrene	--	10 U	10 U	10 U	10 U	--
Dibenzo(a,h)anthracene	--	10 U	10 U	10 U	10 U	--
Benzo(ghi)perylene	--	10 U	10 U	10 U	10 U	--

Sample Identification	MW9	MW10	MW11	MW11DUP	MW12	TRIP BLK 1
Date of Sample	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91
Matrix:	Water	Water	Water	Water	Water	Water
Semi-Volatile compounds: reporting units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Phenol	--	10 U	10 U	10 U	10 U	--
Bis(2-chloroethyl)ether	--	10 U	10 U	10 U	10 U	--
2-Chlorophenol	--	10 U	10 U	10 U	10 U	--
1,3-Dichlorobenzene	--	10 U	10 U	10 U	10 U	--
1,4-Dichlorobenzene	--	10 U	10 U	10 U	10 U	--
1,2-Dichlorobenzene	--	10 U	10 U	10 U	10 U	--
2-Methylphenol	--	10 U	10 U	10 U	10 U	--
2,2'-oxybis(1-Chloropropane)	--	10 U	10 U	10 U	10 U	--
4-Methylphenol	--	10 U	10 U	10 U	10 U	--
N-Nitroso-di-n-propylamine	--	10 U	10 U	10 U	10 U	--
Hexachloroethane	--	10 U	10 U	10 U	10 U	--
Nitrobenzene	--	10 U	10 U	10 U	10 U	--
Isophorone	--	10 U	10 U	10 U	10 U	--
2-Nitrophenol	--	10 U	10 U	10 U	10 U	--
2,4-Dimethylphenol	--	10 U	10 U	10 U	10 U	--
bis(2-chloroethoxy)methane	--	10 U	10 U	10 U	10 U	--
2,4-Dichlorophenol	--	10 U	10 U	10 U	10 U	--
1,2,4-Trichlorobenzene	--	10 U	10 U	10 U	10 U	--
Naphthalene	--	10 U	10 U	10 U	10 U	--
4-Chloroaniline	--	10 U	10 U	10 U	10 U	--
Hexachlorobutadiene	--	10 U	10 U	10 U	10 U	--
4-Chloro-3-methylphenol	--	10 U	10 U	10 U	10 U	--
2-Methylnapthalene	--	10 U	10 U	10 U	10 U	--
Hexachlorocyclopentadiene	--	10 U	10 U	10 U	10 U	--
2,4,6-Trichlorophenol	--	10 U	10 U	10 U	10 U	--
2,4,5-Trichlorophenol	--	50 U	50 U	50 U	50 U	--
2-Chloronaphthalene	--	10 U	10 U	10 U	10 U	--
2-Nitroaniline	--	50 U	50 U	50 U	50 U	--
Dimethylphthalate	--	10 U	10 U	10 U	10 U	--
Acenaphthylene	--	10 U	10 U	10 U	10 U	--
2,6-Dinitrotoluene	--	10 U	10 U	10 U	10 U	--
3-Nitroaniline	--	50 U	50 U	50 U	50 U	--
Acenaphthene	--	10 U	10 U	10 U	10 U	--
4-Nitrophenol	--	50 U	50 U	50 U	50 U	--
Dibenzofuran	--	10 U	10 U	10 U	10 U	--
2,4-Dinitrotoluene	--	10 U	10 U	10 U	10 U	--
Diethylphthalate	--	10 U	10 U	10 U	10 U	--

Sample Identification	MW9	MW10	MW11	MW11DUP	MW12	TRIP BLK 1
Date of Sample	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91
Matrix:	Water	Water	Water	Water	Water	Water
4-Chlorophenyl phenyl ether	--	10 U	10 U	10 U	10 U	--
Fluorene	--	10 U	10 U	10 U	10 U	--
4-Nitroaniline	--	50 U	50 U	50 U	50 U	--
4,6-Dinitro-2-methylphenol	--	50 U	50 U	50 U	50 U	--
N-Nitrosodiphenylamine	--	10 U	10 U	10 U	10 U	--
4-Bromophenyl phenyl ether	--	10 U	10 U	10 U	10 U	--
Hexachlorobenzene	--	10 U	10 U	10 U	10 U	--
Pentachlorophenol	--	50 U	50 U	50 U	50 U	--
Phenanthrene	--	10 U	10 U	10 U	10 U	--
Anthracene	--	10 U	10 U	10 U	10 U	--
Carbazole	--	10 U	10 U	10 U	10 U	--
Di-n-butylphthalate	--	10 U	10 U	10 U	10 U	--
Fluoranthene	--	10 U	10 U	10 U	10 U	--
Pyrene	--	10 U	10 U	10 U	10 U	--
Butylbenzylphthalate	--	10 U	10 U	10 U	10 U	--
3,3'-Dichlorobenzidine	--	20 U	20 U	20 U	20 U	--
Benzo(a)anthracene	--	10 U	10 U	10 U	10 U	--
Chrysene	--	10 U	10 U	10 U	10 U	--
bis(2-Ethylhexyl)phthalate	--	10 U	10 U	10 U	10 U	--
Di-n-octylphthalate	--	10 U	10 U	10 U	10 U	--
Benzo(b)fluoranthene	--	10 U	10 U	10 U	10 U	--
Benzo(k)fluoranthene	--	10 U	10 U	10 U	10 U	--
Benzo(a)pyrene	--	10 U	10 U	10 U	10 U	--
Indeno(1,2,3-cd)pyrene	--	10 U	10 U	10 U	10 U	--
Dibenzo(a,h)anthracene	--	10 U	10 U	10 U	10 U	--
Benzo(ghi)perylene	--	10 U	10 U	10 U	10 U	--

Sample Identification	TRIP BLK 2	TRIP BLK 3	FIELD BLANK
Date of Sample	17-Oct-91	17-Oct-91	05-Nov-91
Matrix:	Water	Water	Water
Semi-Volatile compounds: reporting units	ug/L	ug/L	ug/L
Phenol	--	--	10 U
Bis(2-chloroethyl)ether	--	--	10 U
2-Chlorophenol	--	--	10 U
1,3-Dichlorobenzene	--	--	10 U
1,4-Dichlorobenzene	--	--	10 U
1,2-Dichlorobenzene	--	--	10 U
2-Methylphenol	--	--	10 U
2,2'-oxybis(1-Chloropropane)	--	--	10 U
4-Methylphenol	--	--	10 U
N-Nitroso-di-n-propylamine	--	--	10 U
Hexachloroethane	--	--	10 U
Nitrobenzene	--	--	10 U
Isophorone	--	--	10 U
2-Nitrophenol	--	--	10 U
2,4-Dimethylphenol	--	--	10 U
bis(2-chloroethoxy)methane	--	--	10 U
2,4-Dichlorophenol	--	--	10 U
1,2,4-Trichlorobenzene	--	--	10 U
Naphthalene	--	--	10 U
4-Chloroaniline	--	--	10 U
Hexachlorobutadiene	--	--	10 U
4-Chloro-3-methylphenol	--	--	10 U
2-Methylnapthalene	--	--	10 U
Hexachlorocyclopentadiene	--	--	10 U
2,4,6-Trichlorophenol	--	--	10 U
2,4,5-Trichlorophenol	--	--	50 U
2-Chloronaphthalene	--	--	10 U
2-Nitroaniline	--	--	50 U
Dimethylphthalate	--	--	10 U
Acenaphthylene	--	--	10 U
2,6-Dinitrotoluene	--	--	10 U
3-Nitroaniline	--	--	50 U
Acenaphthene	--	--	10 U
4-Nitrophenol	--	--	50 U
Dibenzofuran	--	--	10 U
2,4-Dinitrotoluene	--	--	10 U
Diethylphthalate	--	--	10 U

Sample Identification	TRIP BLK 2	TRIP BLK 3	FIELD BLANK
Date of Sample	17-Oct-91	17-Oct-91	05-Nov-91
Matrix:	Water	Water	Water
4-Chlorophenyl phenyl ether	--	--	10 U
Fluorene	--	--	10 U
4-Nitroaniline	--	--	50 U
4,6-Dinitro-2-methylphenol	--	--	50 U
N-Nitrosodiphenylamine	--	--	10 U
4-Bromophenyl phenyl ether	--	--	10 U
Hexachlorobenzene	--	--	10 U
Pentachlorophenol	--	--	50 U
Phenanthrene	--	--	10 U
Anthracene	--	--	10 U
Carbazole	--	--	10 U
Di-n-butylphthalate	--	--	10 U
Fluoranthene	--	--	10 U
Pyrene	--	--	10 U
Butylbenzylphthalate	--	--	10 U
3,3'-Dichlorobenzidine	--	--	20 U
Benzo(a)anthracene	--	--	10 U
Chrysene	--	--	10 U
bis(2-Ethylhexyl)phthalate	--	--	10 U
Di-n-octylphthalate	--	--	10 U
Benzo(b)fluoranthene	--	--	10 U
Benzo(k)fluoranthene	--	--	10 U
Benzo(a)pyrene	--	--	10 U
Indeno(1,2,3-cd)pyrene	--	--	10 U
Dibenzo(a,h)anthracene	--	--	10 U
Benzo(ghi)perylene	--	--	10 U

Sample Identification	SS1	SS2	SS3	SS3DUP	SS4	SS4
Date of Sample	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91
Matrix:	Solid	Solid	Solid	Solid	Solid	Solid reanalysis
Volatile Compounds: reporting units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Chloromethane	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--
Methylene chloride	--	--	--	--	--	--
Acetone	--	--	--	--	--	--
Carbon Disulfide	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--
1,2-Dichloroethene (total)	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--
2-Butanone	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--
Carbon tetrachloride	--	--	--	--	--	--
Dichlorobromomethane	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Trichloroethene	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--
Benzene	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--
Toluene	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--
Styrene	--	--	--	--	--	--
Xylene (total)	--	--	--	--	--	--

Sample Identification	SS5	SS6	SS6	SS7	SS8	SS9
Date of Sample	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91
Matrix:	Solid	Solid	Solid reanalysis	Solid	Solid	Solid
Volatile Compounds: reporting units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Chloromethane	--	--	--	--	--	--
Bromomethane	--	--	--	--	--	--
Vinyl chloride	--	--	--	--	--	--
Chloroethane	--	--	--	--	--	--
Methylene chloride	--	--	--	--	--	--
Acetone	--	--	--	--	--	--
Carbon Disulfide	--	--	--	--	--	--
1,1-Dichloroethene	--	--	--	--	--	--
1,1-Dichloroethane	--	--	--	--	--	--
1,2-Dichloroethene (total)	--	--	--	--	--	--
Chloroform	--	--	--	--	--	--
1,2-Dichloroethane	--	--	--	--	--	--
2-Butanone	--	--	--	--	--	--
1,1,1-Trichloroethane	--	--	--	--	--	--
Carbon tetrachloride	--	--	--	--	--	--
Dichlorobromomethane	--	--	--	--	--	--
1,2-Dichloropropane	--	--	--	--	--	--
cis-1,3-Dichloropropene	--	--	--	--	--	--
Trichloroethene	--	--	--	--	--	--
Dibromochloromethane	--	--	--	--	--	--
1,1,2-Trichloroethane	--	--	--	--	--	--
Benzene	--	--	--	--	--	--
trans-1,3-Dichloropropene	--	--	--	--	--	--
Bromoform	--	--	--	--	--	--
4-Methyl-2-Pentanone	--	--	--	--	--	--
2-Hexanone	--	--	--	--	--	--
Tetrachloroethene	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	--	--	--	--	--	--
Toluene	--	--	--	--	--	--
Chlorobenzene	--	--	--	--	--	--
Ethylbenzene	--	--	--	--	--	--
Styrene	--	--	--	--	--	--
Xylene (total)	--	--	--	--	--	--

Sample Identification	SS9	SS10	MW10(3-5)	MW10(13-15)	MW10(13-15)	MW11(3-5)
Date of Sample	16-Oct-91	16-Oct-91	14-Oct-91	14-Oct-91	14-Oct-91	15-Oct-91
Matrix:	Solid reanalysis	Solid	Solid	Solid	Solid	Solid
Volatile Compounds: reporting units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg
Chloromethane	--	--	12 U	13 U	13 U	11 U
Bromomethane	--	--	12 U	13 U	13 U	11 U
Vinyl chloride	--	--	12 U	13 U	13 U	11 U
Chloroethane	--	--	12 U	13 U	13 U	11 U
Methylene chloride	--	--	15 B/U	12 BJ/U	15 B/U	14 B/U
Acetone	--	--	12 U	13 U	4 J	11 U
Carbon Disulfide	--	--	12 U	13 U	13 U	11 U
1,1-Dichloroethene	--	--	12 U	13 U	13 U	11 U
1,1-Dichloroethane	--	--	12 U	13 U	13 U	11 U
1,2-Dichloroethene (total)	--	--	12 U	13 U	13 U	11 U
Chloroform	--	--	12 U	13 U	13 U	11 U
1,2-Dichloroethane	--	--	12 U	13 U	13 U	11 U
2-Butanone	--	--	12 U	13 U	13 U	11 U
1,1,1-Trichloroethane	--	--	12 U	13 U	13 U	11 U
Carbon tetrachloride	--	--	12 U	13 U	13 U	11 U
Dichlorobromomethane	--	--	12 U	13 U	13 U	11 U
1,2-Dichloropropane	--	--	12 U	13 U	13 U	11 U
cis-1,3-Dichloropropene	--	--	12 U	13 U	13 U	11 U
Trichloroethene	--	--	12 U	13 U	13 U	11 U
Dibromochloromethane	--	--	12 U	13 U	13 U	11 U
1,1,2-Trichloroethane	--	--	12 U	13 U	13 U	11 U
Benzene	--	--	12 U	13 U	13 U	11 U
trans-1,3-Dichloropropene	--	--	12 U	13 U	13 U	11 U
Bromoform	--	--	12 U	13 U	13 U	11 U
4-Methyl-2-Pentanone	--	--	12 U	13 U	13 U	11 U
2-Hexanone	--	--	12 U	13 U	13 U	11 U
Tetrachloroethene	--	--	12 U	13 U	13 U	11 U
1,1,2,2-Tetrachloroethane	--	--	12 U	13 U	13 U	11 U
Toluene	--	--	12 U	13 U	13 U	11 U
Chlorobenzene	--	--	12 U	13 U	13 U	11 U
Ethylbenzene	--	--	12 U	13 U	13 U	11 U
Styrene	--	--	12 U	13 U	13 U	11 U
Xylene (total)	--	--	12 U	13 U	13 U	11 U

Sample Identification	MW11(13-15)	MW12(3-5)	MW12(3-5)	MW12(13-15)	MW12(13-15)	MW3
Date of Sample	15-Oct-91	15-Oct-91	15-Oct-91	15-Oct-91	15-Oct-91	17-Oct-91
Matrix:	Solid	Solid	Solid reanalysis	Solid	Solid reanalysis	Water
Volatile Compounds: reporting units	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/Kg	ug/L
Chloromethane	12 U	12 U	12 U	11 U	11 U	10 U
Bromomethane	12 U	12 U	12 U	11 U	11 U	10 U
Vinyl chloride	12 U	12 U	12 U	11 U	11 U	10 U
Chloroethane	12 U	12 U	12 U	11 U	11 U	10 U
Methylene chloride	15 B/U	20 B/U	16 B/U	27 B/U	15 B/U	7 BJ/U
Acetone	12 U	12 U	12 U	11 U	11 U	10 U
Carbon Disulfide	12 U	12 U	12 U	11 U	11 U	10 U
1,1-Dichloroethene	12 U	12 U	12 U	11 U	11 U	10 U
1,1-Dichloroethane	12 U	12 U	12 U	11 U	11 U	10 U
1,2-Dichloroethene (total)	12 U	12 U	12 U	11 U	11 U	10 U
Chloroform	12 U	12 U	12 U	11 U	11 U	10 U
1,2-Dichloroethane	12 U	12 U	12 U	11 U	11 U	10 U
2-Butanone	12 U	12 U	12 U	11 U	11 U	10 U
1,1,1-Trichloroethane	12 U	12 U	12 U	11 U	11 U	10 U
Carbon tetrachloride	12 U	12 U	12 U	11 U	11 U	10 U
Dichlorobromomethane	12 U	12 U	12 U	11 U	11 U	10 U
1,2-Dichloropropane	12 U	12 U	12 U	11 U	11 U	10 U
cis-1,3-Dichloropropene	12 U	12 U	12 U	11 U	11 U	10 U
Trichloroethene	12 U	12 U	12 U	11 U	11 U	10
Dibromochloromethane	12 U	12 U	12 U	11 U	11 U	10 U
1,1,2-Trichloroethane	12 U	12 U	12 U	11 U	11 U	10 U
Benzene	12 U	12 U	12 U	11 U	11 U	10 U
trans-1,3-Dichloropropene	12 U	12 U	12 U	11 U	11 U	10 U
Bromoform	12 U	12 U	12 U	11 U	11 U	10 U
4-Methyl-2-Pentanone	12 U	12 U	12 U	11 U	11 U	10 U
2-Hexanone	12 U	12 U	12 U	11 U	11 U	10 U
Tetrachloroethene	12 U	12 U	12 U	11 U	11 U	10 U
1,1,2,2-Tetrachloroethane	12 U	12 U	12 U	11 U	11 U	10 U
Toluene	12 U	12 U	12 U	11 U	11 U	10 U
Chlorobenzene	12 U	12 U	12 U	11 U	11 U	10 U
Ethylbenzene	12 U	12 U	12 U	11 U	11 U	10 U
Styrene	12 U	12 U	12 U	11 U	11 U	10 U
Xylene (total)	12 U	12 U	12 U	11 U	11 U	10 U

Sample Identification	MW3	MW2	MW4	MW6	MW7	MW8
Date of Sample	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91
Matrix:	Water reanalysis	Water	Water	Water	Water	Water
Volatile Compounds: reporting units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	100 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	100 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	100 U	17	10 U
Chloroethane	10 U	10 U	10 U	100 U	10 U	10 U
Methylene chloride	6 BJ/U	4 BJ/U	8 BJ/U	93 BJ/U	7 BJ/U	4 BJ/U
Acetone	3 J/U	6 BJ/U	10 U	100 U	4 J/U	10 U
Carbon Disulfide	10 U	10 U	10 U	100 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U	100 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U	100 U	10 U	10 U
1,2-Dichloroethene (total)	10 U	10 U	10 U	190	10 U	10 U
Chloroform	10 U	10 U	10 U	100 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U	100 U	10 U	10 U
2-Butanone	10 U	10 U	10 U	100 U	10 U	10 U
1,1,1-Trichloroethane	10 U	2 J	10 U	100 U	10 U	3 J
Carbon tetrachloride	10 U	10 U	10 U	100 U	10 U	10 U
Dichlorobromomethane	10 U	10 U	10 U	100 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U	100 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U	100 U	10 U	10 U
Trichloroethene	8 J	10 U	10 U	2000	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	100 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U	100 U	10 U	10 U
Benzene	10 U	10 U	10 U	100 U	19	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	100 U	10 U	10 U
Bromoform	10 U	10 U	10 U	100 U	10 U	10 U
4-Methyl-2-Pentanone	10 U	10 U	10 U	100 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	100 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	100 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	100 U	10 U	10 U
Toluene	10 U	10 U	10 U	100 U	2 J	10 U
Chlorobenzene	10 U	10 U	10 U	100 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	100 U	62	10 U
Styrene	10 U	10 U	10 U	100 U	10 U	10 U
Xylene (total)	10 U	10 U	10 U	100 U	36	10 U

Sample Identification	MW9	MW10	MW11	MW11DUP	MW12	TRIP BLK 1
Date of Sample	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91
Matrix:	Water	Water	Water	Water	Water	Water
Volatile Compounds: reporting units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Methylene chloride	6 BJ/U	2 BJ/U	2 BJ/U	2 BJ/U	2 BJ/U	30 B/U
Acetone	4 J/U	10 U	10 U	10 U	10 U	10 U
Carbon Disulfide	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethene (total)	10 U	10 U	10 U	10 U	10 U	10 U
Chloroform	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane	10 U	10 U	10 U	10 U	10 U	2 J
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 U	10 U
Dichlorobromomethane	10 U	10 U	10 U	10 U	10 U	10 U
1,2-Dichloropropane	10 U	10 U	10 U	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2-Trichloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	10 U	10 U	10 U	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 U	10 U	10 U
Bromoform	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-Pentanone	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	10 U	10 U	10 U
Toluene	10 U	10 U	10 U	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U	10 U	10 U	10 U
Styrene	10 U	10 U	10 U	10 U	10 U	10 U
Xylene (total)	10 U	10 U	10 U	10 U	10 U	10 U

Sample Identification	TRIP BLK 2	TRIP BLK 3	FIELD BLANK
Date of Sample	17-Oct-91	17-Oct-91	05-Nov-91
Matrix:	Water	Water	Water
Volatile Compounds: reporting units	ug/L	ug/L	ug/L
Chloromethane	10 U	10 U	10 U
Bromomethane	10 U	10 U	10 U
Vinyl chloride	10 U	10 U	10 U
Chloroethane	10 U	10 U	10 U
Methylene chloride	45 B/U	43 B/U	6 BJU
Acetone	10 U	10 U	10 U
Carbon Disulfide	10 U	10 U	10 U
1,1-Dichloroethene	10 U	10 U	10 U
1,1-Dichloroethane	10 U	10 U	10 U
1,2-Dichloroethene (total)	10 U	10 U	10 U
Chloroform	10 U	10 U	12
1,2-Dichloroethane	10 U	10 U	10 U
2-Butanone	10 U	10 U	10 U
1,1,1-Trichloroethane	10 U	10 U	10 U
Carbon tetrachloride	10 U	10 U	10 U
Dichlorobromomethane	10 U	10 U	7 J
1,2-Dichloropropane	10 U	10 U	10 U
cis-1,3-Dichloropropene	10 U	10 U	10 U
Trichloroethene	10 U	10 U	10 U
Dibromochloromethane	10 U	10 U	5 J
1,1,2-Trichloroethane	10 U	10 U	10 U
Benzene	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U
Bromoform	10 U	10 U	2 J
4-Methyl-2-Pentanone	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U
Tetrachloroethene	10 U	10 U	10 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U
Toluene	10 U	10 U	10 U
Chlorobenzene	10 U	10 U	10 U
Ethylbenzene	10 U	10 U	10 U
Styrene	10 U	10 U	10 U
Xylene (total)	10 U	10 U	10 U

Sample Identification	SS1	SS2	SS3	SS3DUP	SS4	SS4
Date of Sample	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91
Matrix:	Solid	Solid	Solid	Solid	Solid	Solid reanalysis
Metals (total) reporting units	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**
Antimony	2.5 BN	1.7 UN	2 UN	2 UN	3.3 BN	--
Arsenic	12.6 N*	10.8 SN*	12.4 SN*	10.7 N*	7.5 N*	--
Beryllium	0.5 B	0.41 B	0.45 B	0.44 B	0.2 B	--
Cadmium	0.63 B	0.6 B	1 B	0.71 B	2.2	--
Chromium	12.4 *	10.3 *	12 *	9.9 *	12 *	--
Copper	19.2	27.2	49.2	45.5	24	--
Lead	23.1	28.8	38.6	35.1	86.5	--
Mercury	0.06 U	0.05 U	0.05 U	0.06 U	0.05 U	--
Nickel	18.9	15.5	14.9	13.7	8.5	--
Selenium	0.38 UW	0.5 UW	0.49 UW	0.46 UW	0.4 UW	--
Silver	3	0.58 U	0.67 U	0.65 U	0.57 U	--
Thallium	0.48 BW	0.5 U	0.49 U	0.46 UW	0.4 UW	--
Zinc	179 E	189 E	162 E	146 E	129 E	--
Metals (dissolved) reporting units	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**
Antimony	--	--	--	--	--	--
Arsenic	--	--	--	--	--	--
Beryllium	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--
Chromium	--	--	--	--	--	--
Copper	--	--	--	--	--	--
Lead	--	--	--	--	--	--
Mercury	--	--	--	--	--	--
Nickel	--	--	--	--	--	--
Selenium	--	--	--	--	--	--
Silver	--	--	--	--	--	--
Thallium	--	--	--	--	--	--
Zinc	--	--	--	--	--	--
Miscellaneous Parameters						
% Moisture:	14	14	16	16	9	9

Sample Identification	SS5	SS6	SS6	SS7	SS8	SS9
Date of Sample	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91	16-Oct-91
Matrix:	Solid	Solid	Solid reanalysis	Solid	Solid	Solid
Metals (total) reporting units	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**
Antimony	2 BN	1.8 UN	--	1.9 UN	2.1 UN	1.8 UN
Arsenic	19.5 SN*	16.2 SN*	--	10.9 N*	13.3 N*	15.6 SN*
Beryllium	0.69 B	0.48 B	--	0.39 B	0.53 B	0.68 B
Cadmium	0.74 B	0.9 B	--	0.51 B	1.5	1.7
Chromium	15.4 *	14.8 *	--	8.6 *	10.5 *	14.9 *
Copper	32.2	53.6	--	28.6	22.5	32.3
Lead	39.8	184	--	22.4	61.8	99.7
Mercury	0.06 U	0.05 U	--	0.05 U	0.06 U	0.05 U
Nickel	24.1	20.7	--	18.4	42.9	27.8
Selenium	0.43 UW	0.41 UW	--	0.43 UW	0.42 UW	0.43 UW
Silver	0.55 U	0.6 U	--	0.63 U	0.7 U	0.6 U
Thallium	0.43 UW	0.41 UW	--	0.43 UW	0.42 UW	0.43 UW
Zinc	199 E	522 E	--	81.3 E	394 E	441 E
Metals (dissolved) reporting units	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**	**mg/Kg**
Antimony	--	--	--	--	--	--
Arsenic	--	--	--	--	--	--
Beryllium	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--
Chromium	--	--	--	--	--	--
Copper	--	--	--	--	--	--
Lead	--	--	--	--	--	--
Mercury	--	--	--	--	--	--
Nickel	--	--	--	--	--	--
Selenium	--	--	--	--	--	--
Silver	--	--	--	--	--	--
Thallium	--	--	--	--	--	--
Zinc	--	--	--	--	--	--
Miscellaneous Parameters						
% Moisture:	9	7	7	7	15	11

Sample Identification	SS9	SS10	MW10(3-5)	MW10(13-15)	MW10(13-15)	MW11(3-5)
Date of Sample	16-Oct-91	16-Oct-91	14-Oct-91	14-Oct-91	14-Oct-91	15-Oct-91
Matrix:	Solid reanalysis	Solid	Solid	Solid	Solid	Solid
Metals (total) reporting units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Antimony	--	1.9 UN	1.6 BN	2.2 UN	--	3.3 BN
Arsenic	--	17.4 N*	19.8 SN*	10.8 N*	--	17.9 N*
Beryllium	--	0.71 B	1	0.25 B	--	0.41 B
Cadmium	--	1.1	0.37 B	0.72 B	--	0.83 B
Chromium	--	18.5 *	28.6 *	7.4 *	--	9.5 *
Copper	--	34.1	49.3	22.6	--	33.4
Lead	--	56.2	20.7	12.1 SN*	--	16.2
Mercury	--	0.05 U	0.06 U	0.06 U	--	0.06 U
Nickel	--	31.8	32.3	19.7	--	28.2
Selenium	--	0.47 UW	0.51 UW	0.54 U	--	0.38 UW
Silver	--	0.64 U	0.44 U	0.75 U	--	0.66 U
Thallium	--	0.47 UW	0.51 UW	0.54 U	--	0.43 BW
Zinc	--	274 E	109 E	88.3 E	--	79.8 E
Metals (dissolved) reporting units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg
Antimony	--	--	--	--	--	--
Arsenic	--	--	--	--	--	--
Beryllium	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--
Chromium	--	--	--	--	--	--
Copper	--	--	--	--	--	--
Lead	--	--	--	--	--	--
Mercury	--	--	--	--	--	--
Nickel	--	--	--	--	--	--
Selenium	--	--	--	--	--	--
Silver	--	--	--	--	--	--
Thallium	--	--	--	--	--	--
Zinc	--	--	--	--	--	--
Miscellaneous Parameters						
% Moisture:	11	12	14	21	21	11

Sample Identification	MW11(13-15)	MW12(3-5)	MW12(3-5)	MW12(13-15)	MW12(13-15)	MW3
Date of Sample	15-Oct-91	15-Oct-91	15-Oct-91	15-Oct-91	15-Oct-91	17-Oct-91
Matrix:	Solid	Solid	Solid reanalysis	Solid	Solid reanalysis	Water
Metals (total) reporting units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	ug/L
Antimony	2.7 BN	1.4 UN	--	2.9 BN	--	--
Arsenic	13.4 N*	20.7 N*	--	4 N*	--	--
Beryllium	0.41 B	0.64 B	--	0.22 B	--	--
Cadmium	0.59 B	0.52 B	--	0.37 B	--	--
Chromium	11.1 *	15.8 *	--	5.8 *	--	--
Copper	22	36.7	--	38.5	--	--
Lead	15.2 SN*	17.7	--	11 SN*	--	--
Mercury	0.06 U	0.06 U	--	0.05 U	--	--
Nickel	16.8	32.1	--	9.7	--	--
Selenium	0.5 UW	0.38 UW	--	0.26 UW	--	--
Silver	0.63 U	0.48 U	--	0.47 U	--	--
Thallium	0.5 UW	0.38 UW	--	0.26 UW	--	--
Zinc	70.3 E	98.2 E	--	50.1 E	--	--
Metals (dissolved) reporting units	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	ug/L
Antimony	--	--	--	--	--	--
Arsenic	--	--	--	--	--	--
Beryllium	--	--	--	--	--	--
Cadmium	--	--	--	--	--	--
Chromium	--	--	--	--	--	--
Copper	--	--	--	--	--	--
Lead	--	--	--	--	--	--
Mercury	--	--	--	--	--	--
Nickel	--	--	--	--	--	--
Selenium	--	--	--	--	--	--
Silver	--	--	--	--	--	--
Thallium	--	--	--	--	--	--
Zinc	--	--	--	--	--	--
Miscellaneous Parameters						
% Moisture:	13	14	14	9	9	NA

Sample Identification	MW3	MW2	MW4	MW6	MW7	MW8
Date of Sample	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91
Matrix:	Water reanalysis	Water	Water	Water	Water	Water
Metals (total) reporting units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Antimony	--	28.2 BN	29.5 BN	24.8 BN	18.9 BN	--
Arsenic	--	22.5 WN	6.9 BWN	2 UWN	4.5 BN	--
Beryllium	--	5.1	3.7 B	12.1	3 B	--
Cadmium	--	8	4.6 B	18.9	2.8 B	--
Chromium	--	101 *	96.7 *	247 *	66.4 *	--
Copper	--	347	208	868	155	--
Lead	--	259	109	647	147	--
Mercury	--	0.17 B	0.29	0.55	0.1 U	--
Nickel	--	196	202	730	152	--
Selenium	--	4 UWN	8 UEN	8 UEN	8 UWN	--
Silver	--	3 U	3 U	3 U	3 U	--
Thallium	--	4 UEN	4 UWN	4 UWN	4 UWN	--
Zinc	--	1090	645	3260	513	--
Metals (dissolved) reporting units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Antimony	--	9.0 U	9.0 U	9.0 U	9.0 U	--
Arsenic	--	5.1 B	2.0 U	2.0 U	7.6 B	--
Beryllium	--	1.0 U	1.0 U	1.0 U	1.0 U	--
Cadmium	--	2.0 U	2.0 U	2.0 U	2.0 U	--
Chromium	--	3.0 U	3.0 U	3.0 U	3.0 U	--
Copper	--	3.1 BJ	3.0 U	6.2 BJ	3.0 U	--
Lead	--	7.7 J	1.9 BJ	2.0 BJ	3.8 J	--
Mercury	--	0.1 U	0.1 U	0.1 U	0.1 U	--
Nickel	--	9.0 U	9.0 U	9.0 U	9.0 U	--
Selenium	--	2.2 UJ	2.2 UJ	2.2 UJ	2.2 UJ	--
Silver	--	3.0 U	3.0 U	3.0 U	3.0 U	--
Thallium	--	2.2 U	2.2 U	2.2 U	2.2 U	--
Zinc	--	4.7 BJ	3.0 U	20.1	4.7 BJ	--
Miscellaneous Parameters						
% Moisture:	NA	NA	NA	NA	NA	NA

Sample Identification	MW9	MW10	MW11	MW11DUP	MW12	TRIP BLK 1
Date of Sample	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91	17-Oct-91
Matrix:	Water	Water	Water	Water	Water	Water
Metals (total)						
reporting units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Antimony	--	28.7 BN	65.4 N	22.1 BN	33.9 BN	--
Arsenic	--	58.9 N	45.9 N	47.3 N	12.9 BN	--
Beryllium	--	4.5 B	6.2	5.4	4.9 B	--
Cadmium	--	6	8.7	6.4	6.5	--
Chromium	--	96.5 *	149 *	123 *	97.1 *	--
Copper	--	175	322	289	328	--
Lead	--	132	225	198	185	--
Mercury	--	0.1 U	0.14 B	0.14 B	0.18 B	--
Nickel	--	169	278	247	178	--
Selenium	--	8 UWN	8 UWN	8 UEN	8 UWN	--
Silver	--	3 U	9 B	3 U	3 U	--
Thallium	--	4 UEN	4 UEN	4 UEN	4 UEN	--
Zinc	--	550	1090	968	898	--
Metals (dissolved)						
reporting units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Antimony	--	9.0 U	9.0 U	9.0 U	9.0 U	--
Arsenic	--	12.1 BJ	4.1 BJ	2.9 BJ	3.6 BJ	--
Beryllium	--	1.0 U	1.0 U	1.0 U	1.0 U	--
Cadmium	--	2.0 U	2.0 U	2.0 U	2.0 U	--
Chromium	--	3.0 U	3.0 U	3.0 U	3.0 U	--
Copper	--	3.0 U	3.0 U	3.0 U	3.9 BJ	--
Lead	--	2.7 BJ	2.2 BJ	2.1 BJ	2.4 BJ	--
Mercury	--	0.1 U	0.1 U	0.1 U	0.1 U	--
Nickel	--	9.0 U	9.0 U	9.0 U	9.0 U	--
Selenium	--	2.2 UJ	2.2 UJ	2.2 UJ	2.2 UJ	--
Silver	--	3.0 U	3.0 U	3.0 U	3.0 U	--
Thallium	--	2.2 UJ	2.2 U	2.2 U	2.2 U	--
Zinc	--	3.7 BJ	3.0 U	4.5 BJ	6.2 BJ	--
Miscellaneous Parameters						
% Moisture:	NA	NA	NA	NA	NA	NA

Sample Identification	TRIP BLK 2	TRIP BLK 3	FIELD BLANK
Date of Sample	17-Oct-91	17-Oct-91	05-Nov-91
Matrix:	Water	Water	Water
Metals (total) reporting units	ug/L	ug/L	ug/L
Antimony	--	--	9.0 U
Arsenic	--	--	3.1 B
Beryllium	--	--	1.0 U
Cadmium	--	--	2.0 U
Chromium	--	--	3.0 U
Copper	--	--	32.9
Lead	--	--	4.3
Mercury	--	--	0.1 U
Nickel	--	--	9.0 U
Selenium	--	--	2.2 U
Silver	--	--	3.0 U
Thallium	--	--	2.0 U
Zinc	--	--	15.4 B
Metals (dissolved) reporting units	ug/L	ug/L	ug/L
Antimony	--	--	9.0 U
Arsenic	--	--	2.0 U
Beryllium	--	--	1.0 U
Cadmium	--	--	2.0 U
Chromium	--	--	3.0 U
Copper	--	--	3.0 U
Lead	--	--	1.3 B
Mercury	--	--	0.1 U
Nickel	--	--	9.0 U
Selenium	--	--	2.2 U
Silver	--	--	3.0 U
Thallium	--	--	2.0 U
Zinc	--	--	5.2 B
Miscellaneous Parameters			
% Moisture:	NA	NA	NA